Volume 1 Issue 7 July 1995 £1.95

Scale Aviation Modeller

Premier Mustang

Modelling the first of the thoroughbreds with Accurate Miniatures 1:48 P-51 kit.

MiG 21

Fishbed - The MiG 21 story part 1. MiG-21F to PFM

07 > 9 771356 053019

ESS-JAY MODELS

FAX: 01708 750387 **Telephone: 01708 739130**

137 STANLEY AVENUE, GIDEA PARK, ROMFORD, ESSEX RM2 5DB

RESICANS
In addition to the range given in last month's magazine, the following new items are now available. Resicans are crystal clear vacuform replacement canopies with a solid resin core for easy cutting. Please note that the resin cores featured on the previous releases have now been improved to ensure a better fit.

All canopies below are 60p each unless stated otherwise and are 1:72nd scale.

RC30 NA FJ-4B Fury
RC31 Supermarine Walrus
RC32 NA T-6 Texan
RC33 MiG-21
RC34 Harvard 2
RC35 MiG-15
RC36 MiG-17
RC37 MiG-19
RC38 MiG-15UTI
RC39 Supermarine Attacker
RC40 F-101 Voodoo
RC41 Two-seat Sea Fury
RC42 B-57 Canberra
RC43 Blenheim Mk.1 **£1.00**
RC44 FW 190 x 2
RC45 FW 190 blown x 2
RC46 ME Bf 109B/E x 2
RC47 ME Bf 109E/F x 2
RC48 ME 163
RC49 ME 410
RC50 Horton Ho 229
RC51 Heinkel He 219
RC52 Heinkel He 112
RC53 Hs 129B
RC54 Ju 87D
RC55 Ta 154
RC56 Ju 87D
RC57 ME Bf 109G x 2
RC58 Hs 126
RC59 He 162
RC60 ME Bf 110C/D/E
RC61 Ju 188
RC62 Ju 88C/D/G
RC63 ME Bf 109 Erla x 2
RC64 P-47 Razorback x 2
RC65 P-47 bubble x 2
RC66 Beaufighter
RC67 Defiant (NEW)
RC68 Typhoon x 2
RC69 Whirlwind
RC70 P-39 Airacobra
RC71 Mosquito
RC72 Hurricane x 2 (NEW)
RC73 Car Door Typhoon
RC74 P-38F Lightning
RC75 P-38J Lightning
RC76 P-51B/C x 2
RC77 P-51 Malcolm Hood
RC78 P-51 x 2
RC79 P-51 Dallas x 2
RC80 Spitfire 1/11 x 2
RC81 Spitfire Mk.V x 2
RC82 Spitfire 8/9 x 2
RC83 P-40B
RC84 P-40E
RC85 P-40N
RC86 Heinkel He 219A-7
RC87 B-26 Marauder **£1.00**
RC88 A-26C Invader **£1.00**
RC89 Douglas Havoc (P70)
RC90 Douglas Boston
RC91 Douglas Havoc (A-20H/K)

OPTIONAL PURCHASE
If you wish to obtain the canopies on their own without the resin core they can be purchased at a discount of 20% on the prices shown above. When ordering this way please add C after the reference number ie. RC71C Mosquito

RANGES
Please note that we stock the full ranges from Cooper Details. Eduard brass etched and kits, Hawkeye, Toad, Magna and lots of others. Please ring with your needs and we will tell you if there are any special offers on the items you want.

FINAL TOUCH
FTA101 1:72nd resin Buccaneer undercarriage **£1.95**
FTA102 1:72nd Tornado GR.1B Sea Eagle pack with two missiles, centre line launch rails and rail adaptors **£1.95**
FTA103 1:72nd Buccaneer Buddy refuelling pod **£0.95**
FTA104 1:72nd Buccaneer replacement tail fin to correct the undersized part in the two Novo kits. Includes tailplane as in FTA105 ..... **£2.50**
As resin technology improves we are able to update and replace older items with new and improved moulds. Accordingly:
FTA105 1:72nd Correct shaped Buccaneer tailplane and fin top to correct Airfix kit, includes rear mounted navigation lights (RAF)
FTA106 As above but with FAA shaped fin top bullets **£1.95**
FTA107 1:72 ALQ101 revised .. **£1.50**
FTA108 1:72 Phimatt revised ... **£1.50**
FTA109 1:72nd gannet COD4 underwing pods and pylons .. **£1.50**
FTA110 1:72nd Spitfire Gull Wing centre section **£1.50**
FTA111 1:72nd FJ-3/4 Fury correct shaped underwing fuel tanks (2) **£1.95**
FTA112 1:72nd Spitfire four spoke wheels, set of four **£1.00**
NEW KIT:
FTK017 1:72nd Groppingen G0-9. Luftwaffe test bed for the Dornier Do 335 configuration **£7.95**

FIGURES FOR THE AIRCRAFT MODELLER
Andrea miniatures 54 mm 1944 Japanese Kamikaze Pilot **£6.50**
Andrea miniatures 54 mm Major Molders **£6.50**
Andrea miniatures 54 mm RAF Gunner 1943 ..... **£6.50**
Andrea miniatures 54 mm US Marines pilot **£25.00**
Fort Royal 120 mm RAF Battle of Britain fighter pilot **£25.00**
Wolf Miniatures 1?35th USAAF WW2 Bomber crewman **£5.30**
Model Cellar 120 mm Red Baron **£20.00**
Taxdir Miniatures 54 mm USAF Desert Storm Figure **£6.75**
Storm Figure **£6.75**

DELTA DECALS
1:72nd Yugoslav Fury undercarriage set, inc radiator **£2.50**

TALLY HO DECALS
7033 1:72nd China 19378 inc Hawk, Dewoitine 510, Polikarpov I-15, I-152 & I-153, Fiat CR.32, Hs 123A and Gladiator
7208 1;72nd Nightfighter Me Bf 110C/E/F **£3.25**
7218 1:72 Spain 1940-1950 inc I-15, I-152, I-16 Bf 109B/E/F .. **£3.25**
4206 1:48th Portugal inc P-36, P-38F, P-39D, Spitfire and Hurricane **£3.25**
4207 1:48 Finnish Gladiator **£3.25**
Please note that we stock the entire range of Tally Ho decals. A full listing is available upon request.

BIGSPIT PRODUCTS
1:32nd canopies to convert the Hasegawa kits.
BS001 PR canopy for PRX, PRXI, PRXIX, inc vertical canopy port **£2.99**
BS002 PR canopy for all early mark photo Spitfires, inc. ventral camera port **£2.99**
BS003 Late fighter canopy for Mk.VIII, Mk.IX, XII and XIV ... **£2.00**
Full resin conversions are due soon using the old Model force masters updated, improved and adapted for resin production.

HUMA
1:72nd Focke Wulf Ta 283 ..... **£14.95**
1:72nd Focke Wulf Achgelis Fa 223 ..... **£21.95**

BLUE PRINT
A range of excellent 1:48th scale resin conversions.
BP4081 Hurricane Mk.I fabric wings, Watts 2 blade prop and two canopies **£17.95**
BP4802 As above plus cockpit detail set and decals **£19.95**
BP4803 Hurricane cockpit detail set **£5.95**
BP4804 Watts 2 blade prop **£1.35**
BP4805 Focke Wulf FW 190A-8/U1 two seat conversion, inc fuselage, cockpit, 2 canopies and decals **£19.95**
BP4806 ME Bf 109T carrier fighter conv. inc wings, arrestor/catapult gear and decals **£16.75**
BP4809 Lockheed P322 Lightning Mk.1 conversion set **£10.99**
BP4810 ME Bf 109H conv set **£16.75**
BP4815 Douglas A-20 Havoc update **£10.99**

CLASSIC AIRFRAMES
A new multi-media range from Eduard. All kits include injection moulded parts, a superb brass etched detail sheet, resin parts were called for and an excellent decal sheet. All kits are to 1:48th scale. The first in Stock:
FOKKER DXXI with Dutch and Danish decal and optional parts for the Danish version **£18.50**

Future 1995 releases are listed below and can be reserved for delivery as soon as the kits reach us at a discount of 10% on the UK retail price:
Fiat CR.42, MC.200 Saetta, Defiant Mk.I and MiG-3.

FRUITBAT PRODUCTIONS
Excellent 1:72nd scale resin kits.
FB003 Arado Ar E.381 ..... **£8.50**
FB004 Horten Ho Vc **£16.75**
FB005 Heinkel Wespe **£16.75**

POST FREE
FOR THIS MONTH ONLY ALL INLAND ORDERS OVER £5 IN VALUE WILL BE SENT POST FREE. OFFER EXPIRES 31ST JULY 1995. THIS OFFER DOES NOTE APPLY TO THE AERO-DYNA-MAX BUCCANEER AS THESE ARE DEALT WITH SEPARATELY.

EAST EUROPEAN BOOKS
Focke Wulf FW 190F/G **£6.30**
Luftwaffe Camouflage and Markings Volume 2 ..... **£7.99**
Hawker Hurricane **£3.90**

TOAD RESINS
1;72nd Daimler Benz Project A.
A truly huge resin kit of the German Supersonic Bomber project. This is a strictly limited run.

HALLAM VAC
A range of neat vacuforms with white metal parts and decals.
1:72nd Westland Welkin Mk.I ... **£7.00**
1:72nd Brigand B.Mk.1 ..... **£8.50**
1:72nd Twin Pioneer **£10.50**
1:72nd Auster AOP.9 ..... **£4.50**
1:72nd Pilatus P2 (no decals) .. **£5.50**

MAQUETASPAN
We have acquired the last of the 1:72nd Vought TA-7 Corsair conversion. The kit comprises a complete resin fuselage with replacement two seat canopy and will fit any parent kit. We only have 25 in stock and the kit is available the special price of **£4.99**

DELTA DECALS
D72002 Cuban Air Force 1: A-26 Invader Sea Fury, P-47D, T-6 Texan **£3.00**
DB72002 1;72nd resin replacement MiG-21F nose to correct the Academy kit version **£1.50**

FROM EASTERN EUROPE
F6F HELLCAT monograph ... excellent colour and b/w plans and photos combine to give the modeller an excellent work of reference for this aircraft **£7.99**
MIKOYAN MiG-29 FULCRUM from Four Plus ... even more colour than before makes this the best so far **£7.50**

MAGNA MODELS — *New releases*
2472 1:72nd Skyraider AEW.1 complete resin and white metal kit **£20.95**
2572 1:72nd Skyraider Target Tug complete resin and white metal kit **£19.95**
7201 1:72nd seat for Heron/ Dove £2.95
7202 1:72nd Skyraider fuel tanks **£1.25**
7204 1:72nd Avenger radome .. **£2.95**
2672 1:72nd Barracuda Mk.V complete resin and white metal kit ..... **TBA**
2772 1:72nd Firebrand Mk.III/IV complete resin and white metal kit **£16.99**
2872 1:72nd Hurricane fabric wing and Watts propellor to convert the Airfix kit **£7.75**
0272 1:72nd Firefly AS.7/T.7 complete resin and white metal kit ..... **TBA**

AIRKIT RESINS
AIR049 1:72nd Seafire 45, complete resin kit. Decals not incl **£18.50**
AIR050 1:72nd Mosquito 100 gal slipper tanks (pair) **£1.50**
AIR151 1:72nd Mosquito NF.11 conversion, for Airfix kit 03019. Contains new solid nose with A1 radome, camera gun detail and 2 wheel halves with slotted hubs **£4.00**

LEADING EDGE
An exciting new range from Canada.
1:72nd Canadair 601 Challenger. Complete resin kit with to solid and clear parts with 60 decals for CAF or Luftwaffe aircraft. Fully detailed flight deck **£28.95**
1:72nd Canadair 601 Challenger. As above but the Canadian Flight Inspection version with full decals and extra antenna parts and nose gear stone deflectors **£28.95**
1:72nd CAF Boeing 707 Refueller, three decal sheets giving two different schemes, plus window decals, together with resin inflight refuelling pods. Converts the Airfix /Heller kits .. **£8.95**
1:72nd DHC Dash-8 'Gonzo', resin nose and belly antenna to build the CAF nav trainer **£5.95**
1:72nd CF-104G Checkerbird decals, together with resin radar warning antennas **£4.55**
1:48th as above **£5.25**
1:32nd as above **£5.95**
1:32nd Ukrainian MiG-29 decals as used on their USA tour **£5.95**
1:72nd Air Spray Invader decals, complete decals for 2 x A-26B and 1 x A-26C as used in Western Canada for fire fighting **£5.25**
1:48th as above **£5.95**
1:72nd RCAF S&R Lancaster. Decals for 1960s scheme plus resin belly radome and accessories **£6.25**
1:72nd RCAF Hu-16 Albatross. Resin parts for 'Tundra Queen' or 'Northern Dancer', with resin snow shoes **£6.25**
1:72nd Decals and resin nqse for F-104 nosed Dakotas of the CAF, Luftwaffe and Lockheed Burbank facility. To be used with the Italeri kit **£5.95**
1:48th as above, to be used with the Monogram kit **£7.25**
1:48th Decals for RCAF Lockheed T-33s, three aircraft comprising the 10,000 hr 'KIWI' of 1959 and two 1961/3 solo display aircraft of the Red Knights aerobatic team **£4.95**

MRIYA MODELS
A new range from the USA. The first release is due for late July and is:
1:48th MiG-19PM, injection moulded with recessed detail, fully detailed interior, decals for Russia, E Germany, Poland and Czechoslovakia. Full colour painting and decal guide **£27.95**
In course of preparation are 1:48th AM-1 Mauler and 1:72 Tu-95 Bear for release later in 1995 as well as sets of decals and resin and brass etched high grade update sets.

AERODYNAMIX
By the time this issue appears the first deliveries of the multi media 1:32nd Buccaneer S.2B should be reaching customers. delays with deliveries of the brass etched parts have put things slightly behind schedule.
A large part of the 'once only' production run of 1,000 kits has already been sold.
This beautiful kit is a fitting monument to the 'Sky Pirate' in all its guises.
This multi media kit comprises the following components:
Vacuform: 25 pieces to make the basic airframe. Each item is female moulded to allow the inclusion of panel detail. A spare canopy is provided.
White metal: 62 fine metal parts to include multi-part undercarriage units, ejection seats, pitot probe, sway braces and a multitude of smaller parts.
Resin: 51 items including air intakes, jet pipe fairings, radome, wing fold mechanism, tail brake parts and many cockpit parts.
Decals: Decals are given for three camouflaged RAF aircraft, two Gulf aircraft and a Royal Navy aircraft. Stencilling and warning markings are included.
Brass etched: A large 59 piece fret to enhance the cockpit, including a one piece main instrument panel, many individual instruments and seat buckles.
The price of this kit is £55.00 plus £3.25 postage inland.
Various optional weapons fit packages are also available:
1. Royal Navy late 1960s comprising 4 x 1,000 lb GP 'iron bombs' **£6.50**
2. Sea Eagle option comprising 2 Sea Eagles, 1 Sidewinder, 1 x ALQ 101 pod complete with adaptors **£10.00**
3. Laarbruch Option comprising 12 Mk.13 bombs with ejector racks. **£8.00**
4. Gulf Fit comprising Pave Spike, ALQ101 pod, Sidewinder, chaff dispeners, adaptors and new 'Gulf' wingtips **£6.50**
A Martel option is in course of preparation and will be made available later.
The next multi media release in the range will be:
1:32nd A-10A THUNDERBOLT II

FINAL TOUCH
For this month only we are offering the following resin items at 40% off of the usual prices. The items and the special prices are as follows:
FTC002 TBM3W Avenger conv **£8.37**
FTC003 Firefly T.1 2-seat fuselage **£5.97**
FTC004 Nep MR.1 (RAF) conv **£8.37**
FTC005 Lightning T.4 fuselage **£5.99**
FTC006 Lightning T.5 fuselage **£5.99**
FTC007 Neptune AP-2H conv .. **£4.17**
FTC008 Skyraider AD5W conv **£1.50**
FTC013 Grumman Trader fuse **£4.17**
FTC014 EP3E Orion conv **£4.17**
FTA001 Buccaneer nose **£0.90**
FTA002 Tornado nose **£0.90**
The above are to correct the badly shaped Airfix and Hasegawa items.
FTA016 Jaguar recce pod **£1.17**
FTA018 Pair of JP.233s **£1.77**
FTA024 1:48th brass etched ammo belts **£0.90**
FTA025 1:32nd brass etched barbed wire **£0.90**
FTA033 Large capacity wing tip tanks inc; transparency for the Hasegawa Neptune **£1.17**
FTA034 Spit 22/24 vac canopy ... **33p**
FTA035 Jaguar GR.1A vacuform canopy **33p**
FTA036 Long nose Mistel conv **£1.17**
FTA037 APS20 radome **90p**
FTA038 Canberra T.11 nose **90p**
FTA043 TIALD pod **60p**
FTA044 ALQ119 pod **90p**
FTA047 Lansen belly tank **60p**
FTA051 1:48th Spitfire gull wing belly section **60p**
FTA056 2 RAF F-4 FOD guards .. **30p**
FTA057 MiG-17 fighter nose for the KP kit **60p**
FTA058 8 RAF style underfuselage chaff dispensers **30p**
FTA064 2 RAF CBLS containers **90p**
FTA069 Canberra TT.17 conv .. **£1.50**
FTA073 Firefly 1 vac canopy **33p**
FTA074 Corsair F4U n/f radome **.60p**
FTA092 Lanc B.2 bomb bay **£1.77**
FTA097 ASV radome **60p**
FTA099 AN/APS Hellcat radome **.60p**
All items are to 1:72nd scale unless noted. Please allow 21 days for delivery of these special priced items.

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SUBSCRIPTION RATES
(for 12 issues)

United Kingdom : £21.00

Europe :
£26 surface mail; £29 airmail

USA/Canada :
£28 surface mail; £37 airmail

Australasia :
£28 surface mail; £41 airmail

Cheques/Money Orders in Sterling only made payable to Concept Publications and sent to the address above.

North American Subscriptions now handled by Wise Owl Worldwide Publications

4314 W.238th St. Torrance, CA, 90505, USA.
Telephone : 310-375-6258
Fax : 310-375-0548
9am-9pm Pacific time, seven days a week-Visa/Mastercard accepted

Contents

SCALE AVIATION MODELLER Vol.1 N°7 July 1995

Features

364..... **Premier Mustang.**
Modelling the first of the thoroughbreds with Accurate Miniatures 1:48 P-51 kit. ***by Jonathan Mock.***

392..... **1918...The German Spring Offensive.**

378..... **Fishbed - The Mig 21 Story**
Part 1. Mig-21F to PFM.
Conceived in the early post-war climate and destined to be a backbone of the Soviet bloc and her satellites throughout the sixties, the MiG-21 has proved, like its Western contemporary the Lockheed Starfighter, to be a real winner. Sue Bushell takes a look, with drawings by Mark Rolfe.

374..... **Latin Legends**
A Brief History of the Regia Aeronautica 1918-1939

399..... **Curtiss P-40 Warhawk**
A Question of Colour.
Malcolm V Lowe discusses the colour schemes of the P-40 Warhawk

News & Reviews

348..... **Previews**
A full round up of selected offerings from various manufacturers

351..... **New on the Shelf**
All the information you will need when selecting your next modelling project

359..... **Decals**
A selection of decals to look out for

Regulars

371..... **Her Beyond the Modelling Bench**
Self Defence for Modellers !

406..... **Your Letters**
A round up of club shows and modelling events for your diary

404..... **What's On**
A round up of club shows and modelling events for your diary

372..... **Competition**
We have 30 pairs of I.A.T tickets to give away ! in this months' great competition

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Coming soon to a shelf near you

Scale Aviation Modeller *takes a preview look at some recently-released goodies – full reviews will follow in future issues*

TITBITS

Heller Update

After the takeover of Humbrol in October 1994 by Allen & McGuire partners, some reorganisation has taken place within the company. But, contrary to rumours, Heller kits will still be available in the UK as they are now.

In recent times distribution of both Airfix and Heller products was directed from the Humbrol plant at Hull. However, subsequent to the takeover in October, all Heller export distribution will now be undertaken at Heller's own factory in Trun, France. As far as the UK market is concerned, there will little change to the availability of Heller kits as Humbrol will be acting as the UK – rather than worldwide – distributor.

The 11th hour sale of Humbrol left little time for both Airfix and Heller to make more substantial plans for 1995, and it appears the coming twelve months are very much a time of consolidation for both companies as their new owners get a feel for the market.

At the time of the Olympia in late January 1995 (see Malcolm V. Lowe's report, Issue 4), details of Heller's range for this year was not available. Courtesy of Humbrol, we can confirm their programme for 1995 which includes re-issues of the Curtiss SBC-4 Helldiver (biplane), Grumman Hellcat and an update of the Transall to C-160 'Gabriel' status. It is possible that other kits may become available later in the year, but this has yet to be confirmed. A limited supply of Heller catalogues is available in the UK and further information can be obtained from Humbrol in Hull, telephone 01482 701191.

Cold War Pirate

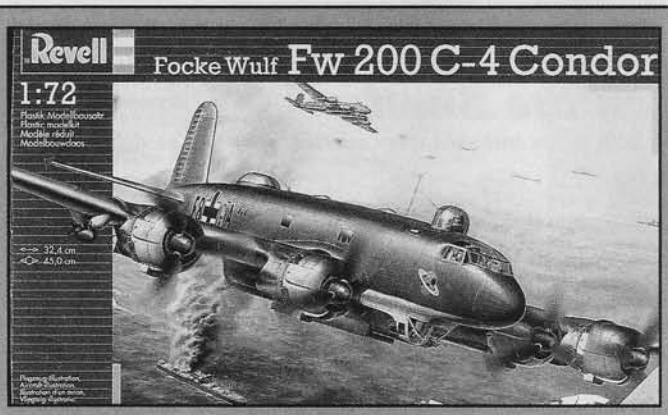
Still with Humbrol, plans are well in hand for the release of the 1:48th scale naval Buccaneer S2 kit for August 1995. Chief development engineer Trevor Snowden says the kit will feature markings for 801 and 809 Squadrons Royal Navy and 24 Squadron SAAF along with new naval-style drop tanks, flat bomb bay, short chord pylons and a weapons load of SNEBs and 1000-lb bombs. Airfix's other 1:48 reworking, the Sea Eagle-armed Tornado GR1B, will feature markings from No.12 Squadron (in the new grey scheme) and No.617 Squadron with the more traditional grey/green camouflage.

PPacific Heights

PP Models are planning to follow up their first full kit, the 1:48th scale Fairey Firefly V, with its predecessor, the WWII vintage Firefly I. The new-tool patterns have been completed and the kit will feature vacuform, resin, metal and etched parts as before. It is hoped the decals will feature markings for Atlantic and Pacific based aircraft. PP are also planning their third full kit, a 1:48th scale Fairey Battle. All will be released under the PP Aerokits banner.

One of their projects that has recently veered off course is their 1:48th scale detail set for the Airfix Buccaneer. The set was originally intended for release at the 1994 IPMS (UK) Nationals but was delayed and rescheduled for the Southern Expo show in April 1995 though it failed to make that show too. According to PP's proprietor Tim Perry, the success of the both the Fairey Firefly kit and the Sea Fury detail set has seen the company trying to keep up with orders for both, while at the same time attempting to develop new projects. PP hope to step up production of current and new projects in the near future. In the meantime, the proposed release for the Buccaneer set is said to be 'soon'.

Jon Mock

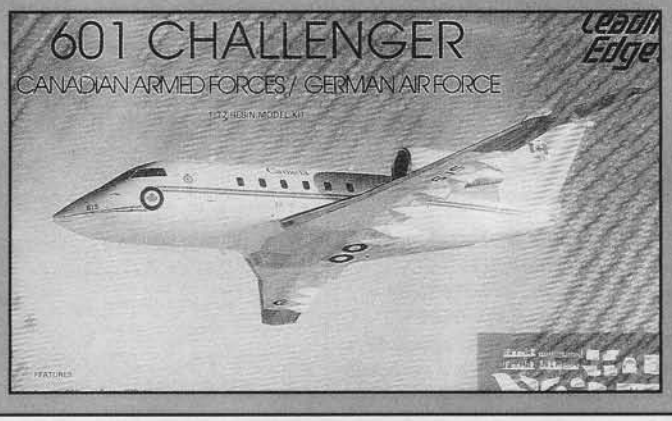


TECHNICAL DATA

Kit: Focke Wulf FW 200C-4 'Condor'
Manufacturer: Revell
Scale: 1:72nd
Price: £11.95
Type: Injection moulded plastic
Kit No: 04312
Parts: plastic: 120; clear 14
Decal options: 2
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

TECHNICAL DATA

Kit: 601 Challenger
Manufacturer: Leading Edge Models
Scale: 1:72nd
Price: $35.00 (US)
Type: Resin
Kit No: 601.1.72
Parts: resin 43 (Grey); clear 17; etched 13
Placards: 1: Instrument panel and side consoles
Manufacturer: Leading Edge Models, Bay E, B3 Skyline Crescent N.E., Calgary AB, T2K 5XS Canada



TECHNICAL DATA

Kit: Sukhoi Su-7 BMK/BKL 'Fitter'
Manufacturer: Revell
Scale: 1:48th
Price: £11.95
Type: Injection moulded plastic
Kit No: 04530
Parts: plastic 120; clear 6
Decal options: 2
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

TECHNICAL DATA

Kit: Fokker DXXI
Manufacturer: Matchbox
Scale: 1:72nd
Price: £4.50
Type: Injection moulded plastic
Kit No: 40144
Parts: plastic 34; clear 1
Decal options: 1
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

TECHNICAL DATA

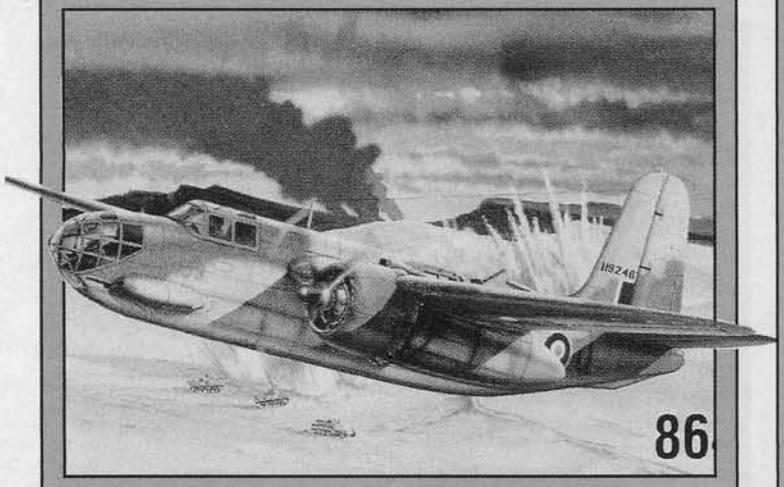
Kit: Sukhoi Su-27 Flanker B
Manufacturer: Academy-Minicraft
Scale: 1:48th
Price: £23.99
Type: Injection moulded plastic
Kit No: 2131
Parts: plastic 154; clear 12; etched steel; PVC 3
Distributor: Toyway, PO Box 55, Unit 20, Jubilee Trade Centre, Jubilee Road, Letchworth, Herts SG6 1SG
Telephone: (01462) 672509

TECHNICAL DATA

Kit: Hannover Cl.IIIa
Manufacturer: Eduard
Scale: 1:48th
Price: £19.95
Type: Injection moulded plastic, etched brass and white metal
Kit No: 8008
Parts: plastic 23; etched brass 124; white metal 3
Others: 1 (acetate), 2 (steel tubing) and 4 (pins)
Distributor: Four Plus UK, 29 Westwood Gardens, Hadleigh, Benfleet, Essex SS7 2SH
Telephone: (01702) 559308

TECHNICAL DATA

Kit: Douglas A-20B/C Boston
Manufacturer: AMT
Scale: 1:48th
Price: £10.99
Type: Injection moulded plastic
Kit No: 8644
Parts: plastic 89; clear 11
Decal options: 2 (86BS, 47BG USAAF + No114 Sqn RAF)
Distributor: AMT/ERTL (Europe)
Adwell Systems Ltd, The Old Vicarage,
Yarcombe, Devon. EX14 9BD
Telephone: 01392 445434

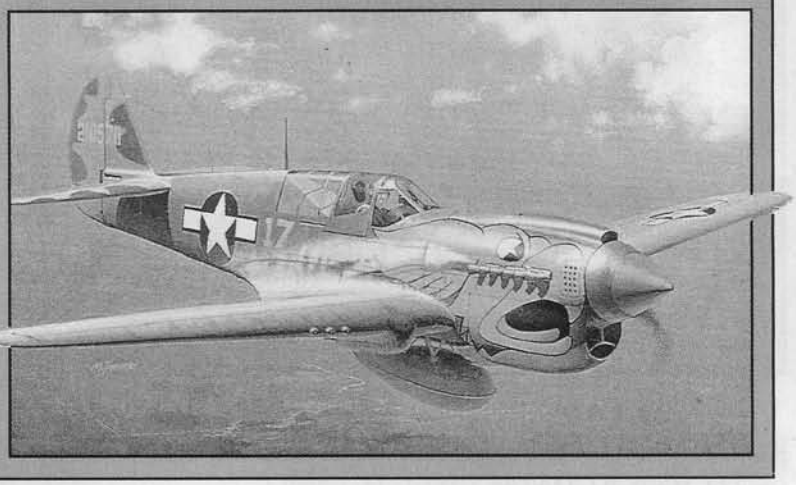


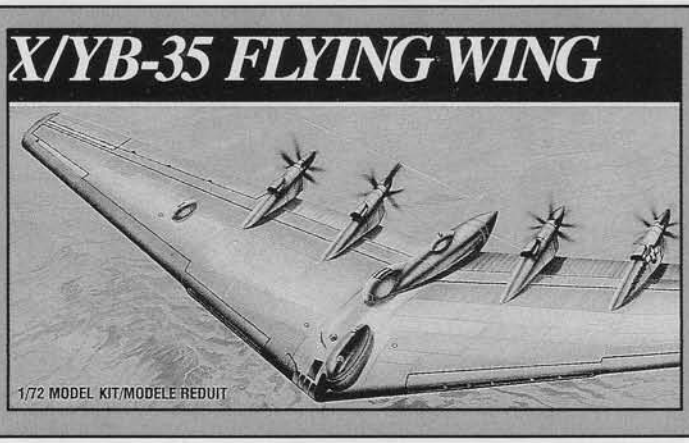
TECHNICAL DATA

Kit: MiL Mi-24 Hind D "TIGERMEET"
Manufacturer: Revell
Scale: 1:72nd
Price: £8.95
Type: Injection moulded plastic
Kit No: 04417
Plastic parts: 94
Clear parts: 11
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road,
Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

TECHNICAL DATA

Kit: Curtiss P-40K
Manufacturer: Mauve
Scale: 1:48th
Price: £19.99
Type: Injection moulded plastic
Kit No: Aircraft series No1
Parts: 73(plastic) 11 (clear)
Importers: Pocketbond Ltd
PO Box 80, Welwyn, Herts.
AL6 0ND
Telephone: 01438 798593 Fax : 01438 798616





TECHNICAL DATA

Kit: Northrop XB/YB-35
Manufacturer: AMT
Scale: 1:48th
Price: £25.99
Type: Injection moulded plastic
Kit No: 8615
Parts: plastic 125; clear 6
Decal options: 2 (XB-25 or YB-35)
Distributor: AMT/ERTL (Europe)
Adwell Systems Ltd, The Old Vicarage,
Yarcombe, Devon. EX14 9BD
Telephone: 0181-207 1213

New on the shelf . . .

P-40E WARHAWK 'NOSE ART'

Continuing Hasegawa's policy of re-releasing established kits from their range with the inclusion of new decals, a recently re-released 'nose art' special is the well-known Hasegawa P-40E Warhawk with two new colour scheme options.

This kit first appeared during the 1970s and is a basically sound representation of this important American fighter in general shape and outline. Comprising 36 grey plastic parts (including a seated pilot figure), the main components feature neatly mounted engraved panel lines. The cockpit glazing comprises a one-piece moulding which combines the windscreen with the rearward-sliding canopy, while the P-40's distinctive side widows are featured as separate pieces. Underfuselage ordnance comprises a choice of either a bomb or a drop tank. If you model one or other of the two markings options included in this re-release, then use the drop tank and not the bomb.

As is often the case with Hasegawa kits, the cockpit interior is rather basic and sparse, and cries out for the addition of additional details. A decal is included for the instrument panel, and a cockpit floor, control column plus a rather odd-looking seat are also included. A good way of adding some better detail is to use the Eduard cockpit detail set No.72-128 produced in the Czech Republic, available in the UK from importers Four Plus (UK) in Benfleet, Essex or from some of the larger model shops. If you subsequently want to show off the cockpit interior with a 'slide open' cockpit canopy, then sawing up the kit's main transparent moulding will not suffice because the resulting pieces are quite thick and the rearmost piece representing the rearwards-sliding canopy will not fit over the fuselage shape immediately aft of the cockpit. If you wish to model the canopy open, then Falcon Industries of New Zealand include a suitable P-40E transparent cockpit cover moulding in their set of vacuformed replacement canopies for various USAAF fighters (Set No.6), available from most larger model shops. Alternatively, the replacement canopies Set No.9116 by Squadron includes two vacuformed P-40E canopies. All these vacuformed items, incidentally, need to be carefully cut up if you want to model them 'open', but they are thin enough to look realistic and to be modelled in the 'open' position.

Construction of this kit is normally very straightforward, and I know several modellers who have built examples of this kit in the past without any trouble at all. However, the review kit as built here showed signs that the moulds are possibly perhaps now a little past their best, or that there is something of a problem with the cooling processes of either the moulds or the mouldings when the plastic parts are being formed. I found one of the kit fuselage sides to be twisted, while the one-piece lower wing component was very badly warped. There was also some prominent 'sinkage' on each upper wing piece along the trailing edges near the wing roots which needed careful filling and sanding. Normally I find Hasegawa kits go together very well, but this particular example proved to be an exception, with filler needed along the wing roots; indeed, the lower wing was so badly warped that I had to break it roughly down the centreline and then re-set it in order to line-up the whole wing assembly anywhere near properly with the fuselage. Perhaps I was unfortunate to have the only example of this kit that features such problems with some of the main components, but it was certainly a surprise to find such difficulties in — of all things — a Hasegawa kit.

The decals in this special 'nose art' re-release of the kit are for two aircraft of the 49th Fighter group, US Fifth Army Air Force, in the Pacific theatre during the early war years. One of these was flown by Lieutenant John Landers, the other by Captain Joseph Kruzel. Both these pilots, after serving in the Pacific, subsequently made tours of duty in the European theatre; Landers in particular rose to considerable fame in the Eighth Army Air Force, and later flew the equally well-known Mustang named *Big Beautiful Doll*.

The inclusion of these colour scheme options in Hasegawa's kit in fact opens up once more the debate as to what the uppersurface colours (and indeed the underside colours) of two colour camouflaged Warhawks really were. The kit's instructions point out that Kruzel's aircraft was dark green and dark brown camouflaged on top, with neutral grey below. They further claim that the Warhawk

TECHNICAL DATA

Manufacturer: Hasegawa
Scale: 1:72nd
Price: £5.95
Type: Injection-moulded
Parts: plastic 36; clear 3

of Landers was dark green and *sand* on top, and *azure blue* underneath. I have more to say on the whole subject of Warhawk colour schemes elsewhere in this issue, but it is worth noting here that the 'sand' uppersurfaces of Landers' aircraft, and the underside colour attributed to this machine, are worthy of further examination and debate. The situation in this case if further complicated by Hasegawa's continuing habit of quoting Gunze Sangyo and the little known Mr Color paint references on their instructions. This reviewer would much prefer to see such well-known and widely-used paints as Humbrol and/or Xtracolor referred to as well, especially as both these ranges include specially-created camouflage shades. In the case of Landers' aircraft in particular, the kit's instructions recommend for the suggested underside azure blue shade a mixing of no less than three Mr Color shades! Although Mr Color paints are no doubt of very high quality, all of this means very little to modellers in the UK who, if they want azure blue, can have a go with Xtracolor No.X26, which has the shade ready and waiting in one tin. However, perhaps the real irony of this situation is that, not just in my opinion but in the opinion of various students of colour schemes during this period of World War 2, Landers' aircraft most probably should not be azure blue underneath in any case!

I finished the review model as Kruzel's Warhawk, and painted it with Humbrol No.29 (dark earth), and No.30 (dark green), with the undersides in No.23 (light blue, with a spot of No.25 to make it a little deeper blue). The decals supplied in the kit for this aircraft gave some concern. The white of the stars on the national insignia is too 'thin', and slightly shows through the colours underneath when applied to the model, which is particularly obvious in the positions where the roundel straddles both uppersurface colours — if you use these roundels then paint a gloss white disc where they are to be positioned before applying them to the model. The distinctive dragon on the nose of Kruzel's aircraft appeared on the decal sheet printed 'off register', and therefore it had an incorrect partial white outline which needed to be very carefully painted out after the decals had been applied to the model. I gave the model an overall airbrushed finishing coat of matt varnish, and finished with some subtle weathering.

The result is a very convincing-looking rendering of the P-40E in shape and layout, but I am still rather surprised at the warping and twisting found on some of the main components. The kit retails for approximately £5.95 and my thanks go to the Aviation Hobby Shop for our review sample.

Malcolm V. Lowe

AIRBUS A310 ' BALAIR'

This is the fifth time that this kit has been issued by Revell, it previously being in the colours of British Caledonian, KLM, Lufthansa and Sabena. The BALAIR /CTA colours must be the most colourful yet.

Balair started charter flights in 1957 and soon established itself as a well known airline of the Swissair Group. In 1993 it merged with CTA, another member of the group and is now known as Balair/CTA. It has three A310-325 machines.

The kit has 40 parts which are all very well moulded with fine surface detail. The engines have detailed fans. Particularly well detailed is the under-carriage. There is a very small amount of flash on some of the larger parts but these are very easily cleaned up before assembly. Construction is very simple and well illustrated by a series of exploded views, each part being numbered. The fit of all components is good, just a trace of filler being required on some of the more complex joints such as the engine pylon to wing.

As mentioned above the colour scheme is very colourful. The fuselage has a white top with dark blue underside. The red fin with the white Swiss cross contrasts well with this. The wing and tail surfaces are yellow with silver leading edges. 'balair' is in red, 'CTA' in blue. The decals are very comprehensive with door markings, a host of stencil markings and many 'Do not walk' lines. The markings are for HB-IPM. A few errors have crept in with the numbering of the decals. Generally speaking, it is quite easy to 'sus out' where each decal goes but correct numbering would be more helpful. One example of this is decal number 43. There are two decals with this number and two 43 locations on the drawings; a short one for the upper tailplane each side and a long one for the upper port wing. Decal 42 is also duplicated. This sort of error should not get through proof reading or trial building of a kit.

The artwork on the box is very eyecatching and should attract sales. It is a very good kit and very good value for money.

Brian Thorne

TECHNICAL DATA

Manufacturer: Revell
Scale: 1:144th
Price: £10.50
Type: Injection moulded plastic
Kit No.: 04221
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

GD F-16 'DUTCH SPECIAL'

TECHNICAL DATA

Manufacturer: Revell
Scale: 1:72nd
Price: £8.95
Type: Injection moulded plastic
Kit No: 04318
Parts: plastic: 145; clear: 1
Decal options: 1
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

THE KIT

This is a re-issue of the old Revell early production F-16, but with the addition of a new sprue which contains all the parts to bring it up to modern specifications, including the export drogue chute canister on the tail.

CONSTRUCTION

The kit is quite a nice offering, even when you consider its age. Construction is dealt with in 40 stages, all of which are well illustrated in the diagrammatical instruction sheet. The first area which has been changed is the ejector seat. This new example is far better detailed than the original one. The kit does contain a complete engine, which can be built into the aircraft or displayed separately. The new style tailerons are included complete with static wires. The really disappointing areas are the nose and main wheels. These are from the old moulding and are diabolical. The centres are separate, but they are too small for the corresponding hole in the wheel, the resulting hole is difficult to fill but too obvious to leave; catch 22!

A new upper decking behind the pilot, plus a new nose all help to lift the overall quality of the kit and the final 'new' element is that complete export-style tail unit. The full underwing ordnance and electronics fitment is included in the kit, but all you all require for this 'special' display aircraft is the centre-line tank (stage 35).

In the original issue the kit came with a bomb/missile trolley, tractor, tow bar and two figures and this example is no different. Although they are in this kit, I did not use them as they are American in style and therefore seemed inappropriate for this model.

COLOUR OPTIONS

As the kit title says, this is a special aircraft and the kit therefore only contains one decal option. The aircraft, code J-253, is the display aircraft of the Dutch Air Force and it is very colourful. Most of the small detail is supplied as decalling, but there is still a very complex bit of masking and spraying required.

A full page in the instructions is used to illustrate the different area of colour on the aircraft. As the aircraft is in a combination of red, white, blue, dust grey, grey and stone grey, the best approach is as follows. Build up the model less the undercarriage and centre tank. Now spray the entire model white (Revell 05). Once dry mask off the bits you want to stay white and spray approximate areas of red (Revell 36). Once that is dry leave on the masked white area and mask off all the area you require red and continue like this until you have each colour applied. The end result is a well wrapped model, but as long as you only apply paint approximately, you should not get large build up and steps in your finish. After I had completed all that I was ready to throw the model away, but I resisted and removed the masking tape ready to apply the decals.

DECALS

These are the usual matt type decals from Revell and I will only say that you are all aware I am no fan of them. Suffice to say I spent many 'happy' hours (for happy read frustrating!) applying them to my model. The end result was far from perfect, as the heavy carrier film easily showed and silvering was a great problem. The most glaring problem with the decals, or at least the set in mine, was that the port tailplane decal (No.25) was completely devoid of the red element of the red/white/blue flashes! I don't know if this was a restricted fault, but if not, Revell . . . better look at all the other devals in these kits!

Decal rating: 4/10.

CONCLUSION

This is certainly a very colourful and pleasant kit to have and it's not that hard to make. I think the complexity of the paint scheme I think put this out of the 'first time' model bracket, but if you think you can hack all that masking and painting it's well worth it. You should also consider the fact that you can add all that lovely ordnance and ground equipment into your spares box; not bad!

RECOMMENDATION

Recommended to anyone who thinks they can do the paint job and live with those decals!

Thanks to Revell (GB) for the review sample.

Richard A. Franks

DOUGLAS SKYRAIDER (SWEDISH TARGET TUG)

THE KIT

This new kit was released at the same time as Magna's Skyraider AEW version. The main components are resin and the remaining items are white metal, plus vacuformed canopies and side windows.

CONSTRUCTION

Construction of this model is relatively easy. The only change from previous kits from this manufacturer is the inclusion of detail parts for the cockpit interior. This not only includes an instrument panel and seat, but the instructions have templates for the floor and bulkhead and a suitably sized piece of plastic card is included with the kit. Detailing of the cockpit interior is up to your own tastes, but the instructions do include a nice line drawing of the cockpit if you really want to go to town. The wings are only secured via butt joints onto the fuselage, and tailplanes are the same. Using wire pins inside each of these joints may strengthen them. I did not add the side windows at the early stage, as I intended to fit them *after* painting. The usual amount of filling and sanding was required on this kit, although I must say that sanding the engine cowl area was very fiddly and resulted in the removal of any raised detail.

I resisted the temptation to cut and fold the wings as this would have made the review far too long! The low point with this kit were the drop tanks. Most TT Skyraiders had them, but because of the way the kit's tanks are split near the front, I was unable to use them. It was simply because the lip seam around the tanks could not be achieved due to the joint line. I do not know the limits of the moulding process, but I would have thought that a horizontal split of the tank, with the seam left on one part only would have made the whole thing a lot better.

COLOUR OPTIONS

The colour scheme for this aircraft could not be easier, as it is yellow overall with a black anti-dazzle panel in front of the cockpit. The yellow is similar to trainer yellow, although a little bit lighter, so just add a bit of white to Humbrol matt 24 to lighten it slightly and that should do fine. The anti-dazzle panel and wing walkways are Humbrol matt 33 (black).

DECALS

As I have already said this kit does not have any decals in it, so all the markings have to come from other sources. The wing serial numbers are on Specialtryck sheet number 021, whilst the fuselage serials come off Modeldecal's sheet number 036A. The 'Svensk Flygtjanst AB' legends are a bit of a problem and this is the reason mine are devoid of them! They have been produced by a specialist Swedish company, but I did not have time to find them. If you are an IPMS member, or know a man who is, contact the Swedish Air Force SIG and they may be able to help. If you don't have the wing serial number sheet, use Modeldecal sheet numbers 34 and 36 – they are not totally correct, but will pass muster.

CONCLUSION

Not a bad kit. I'm impressed by the finished product and it looks striking in its overall yellow scheme. The nature of the media and the amount of knowledge and skill required to make this kit put it into an experienced modeller category only. The inclusion of the cockpit bits are nice, but a lot of scratchbuilding is required to make the interior. The panel lines are a bit wavy and the casting of the metal parts a bit rough in places.

The worst part of the kit is the rarity of the required decals. If it's your particular subject I am sure you will be able to get around it, but for me it was a problem.

RECOMMENDATION

For the more experienced amongst you only. *Thanks to Magna for the review sample.*

Richard A. Franks

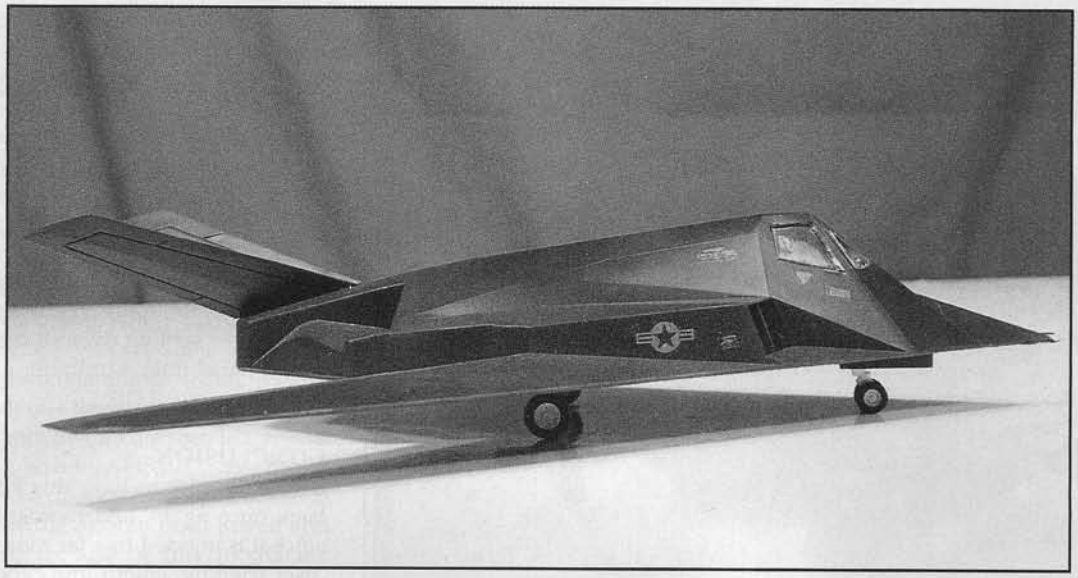
TECHNICAL DATA

Manufacturer: Magna Models
Scale: 1:72nd
Price: £19.95
Type: Resin and white metal
Kit No: 2572
Parts: resin: 11; white metal: 23; vacuform: 10 (clear)
Decal options: None
Distributor: Magna Models, 4 Brian Close, Sandford, Wareham, Dorset BH20 7BJ
Telephone: (01929) 553518

DORNIER ALPHA JET

This lightweight fighter/bomber has not been such an attraction to the model manufacturers as some of the American and Soviet machines, so it is nice to see it reissued by Revell in this scale in the special markings used by 40+80 on the occasion of the disbandment of Jabo-43 at Oldenburg in 1993.

The kit consists of 42 parts including underwing pylons and stores. The surface detail is a little heavy in places but is in general quite acceptable. In contrast to the F-15A, which we will be reviewing next month, the cockpit detail is excellent for the size and indication is given of the nose



LOCKHEED F-117A NIGHTHAWK

THE KIT

This kit is a re-issue. It was one of the first 'stealth' models and the inaccuracies within it reflect the urgency that manufacturers placed on trying to be the first on the market place with an F-117 kit.

It will come as no surprise to find that the kit is moulded entirely in black!

CONSTRUCTION

With only 44 pieces the kit could not be easier, , but there are still quite a few problems with fit to contend with. The cockpit tub is devoid of much detail, the ejector seat being very simple and the decals do not fit all that well onto the side consoles. The clear canopy insert is very vague and the resulting gaps around each panel are quite pronounced.

The most glaring fault is in the accuracy around the exhaust area. We all know today that the F-117 has slit exhausts at the rear to reduce thermal emissions. This kit, however, has large gaps for the exhausts which are in the wrong place, are completely the wrong shape and even have reproductions of the engine visible inside!

The undercarriage is very, very basic and there is no detail within each well. We have all now seen the serrated edges on the bomb and undercarriage doors, plus around the canopy, but none of this is reproduced in this kit.

The weapon load is nice with LGBs and Maverick missiles, but once again these are over-simplified.

COLOUR OPTIONS

There is only one option within this kit and this is a simply marked (no unit tail code) example which is not identified in the instructions. The colour on an F-117 could not be easier – is black – while the bomb and undercarriage areas are white and the cockpit interior is a light grey.

DECALS

The decal sheet within the kit is very small and does include instrument and side console detail but the external data is minimal. The lack of unit codes, etc. is poor and the quality of the decals overall is not that good. The decal carrier film, although glossy, is quite evident and no matter how hard I tried little areas silvered on most of them.

Decal rating: 4/10.

CONCLUSION

Going by what I have already said I am sure that you can tell I was not that impressed with this kit. Considering there are far better examples of the F-117A on the market in this scale, I cannot understand why AMT/ERTL have bothered to re-issue this kit. It's inaccuracies and poor fit make it a kit that I can only place in the 'toy' bracket and for that reason it is not one I would recommend to any serious modeller after a 1:72nd scale F-117A.

RECOMMENDATION

Would you be surprised if I said, not recommended? Sorry AMT/ERTL, please don't get upset and withhold the XB-35 from me (grovel, grovel).

Richard A. Franks

TECHNICAL DATA

Manufacturer: AMT
Scale: 1:72nd
Price: £7.50
Type: Injection moulded plastic
Kit No.: 8814
Plastic parts: 41
Clear parts: 3
Decal options: 1 (Unidentified)
Distributor: AMT, Falcon Road, Exeter EX2 7LB
Telephone: (01392) 445434

Unfortunately, the wrong picture was used on the review on page 288 of the June issue of the Mauve Messerschmitt Bf 110G-2/3. Herewith is the correct model, apologies to all concerned.

weight required, and the instruction drawings are larger and clearer.

The only slight problem with the easy assembly was the need for a little filler around the rear joint of the centre section underside panel.

The aircraft is finished with metallic grey top surfaces and aluminium undersides. The special markings are yellow flashes along the fuselage and across the wings and tailplane. These are achieved by a number of decals which make an otherwise difficult paint job very easy to say the least. One can't fault their shaping to the curvature of the fuselage. My only criticism is that they are a little on the thick side so that surface detail does not show through even when using specialist treatments. If they were thinner the dark underpaint would probably be a problem so I feel their thickness is acceptable even though some detail is lost.

I left the stores off the review model as I felt they would detract from the smart colour scheme.

Brian Thorne

TECHNICAL DATA

Manufacturer: Revell
Scale: 1:144th
Price: £2.99
Type: Injection moulded plastic
Kit No.: 04014
Distributor: Revell (GB) Ltd, Foster House, Maxwell Road, Borehamwood, Herts WD6 1JB
Telephone: 0181-207 1213

DOUGLAS AD-4W SKYRAIDER

THE KIT

I have already heard it said, so I will clarify things from the start. This is *not a new kit*, this is a re-boxing of the ESCI kit. AMT/ERTL acquired all of the ESCI toolings last year and have recently re-issued the 1:48th scale Henschel Hs 129 under their own label. The re-boxing and re-issue of this kit is very welcome, as of all the ESCI Skyraider kits, the AD-4W was the most sought after. To further increase the pleasure of this kit's return, you will all no doubt be pleased to hear that it is now moulded in *grey* plastic, no more of that terrible dark blue stuff! All panel lines are *raised*.

CONSTRUCTION

As with all AMT/ERTL kits nowadays, this one has a huge diagrammatical instruction sheet. Construction is dealt with in nine stages, all of which are relatively straightforward. The cockpit has simple detailing, with a floor and side consoles, plus the seat back, control column and instrument panel. Decals are supplied for the side consoles and instrument panel (see later).

The left (52D) and right (53D) fuselage panels do not fit all that well and as the panel line are raised, filling and sanding is not an option I relished. The stabiliser fins (48D) do not fit all that well and a little filler or PVA will be needed to cover the resulting joint.

A point to take care of is covered in stage 6 and this is the placement of the turtledeck. I say take your time here as you need to secure the windshield (3E) *first* and once this is secure dry-run the fit of the decking (51D). Ensure that with the decking in place the sliding canopy (2E) lines up with the windshield, *before* you cement everything in place. The radar radome (37D and 38D) fit together well, but their location on the fuselage under surface is not marked and a few dry runs will be required before you get the best fit. This 'best' fit, however, is not good and you will still need to fill some holes along the joints which are not at all easy to reach.

When building the under-carriage (stage 8), cement the wheel well covers (46D and 47D) in place first, as you will need to do some trimming and test-fitting before they will fit properly. Once dry, thread the linkage (30B) into the opening and tack in place, then add the main oleos (31B and 32B) and link it all up together. This may seem involved but is a lot easier than trying to fit the well covers *after* you have secured the oleos in place.

COLOUR OPTIONS

As stated in the technical data panel, this kit comes with three colour options. The first two are American, US Marines and US Navy respectively, whilst the third is a very nice Royal Navy aircraft in full Suez Crisis markings. The painting and marking guide is the same size as the instructions (too big!) and all of the colours required are identified by Federal Standard numbers only. Both American aircraft are sea blue FS.15042 overall, whilst the British example is also sea blue, but has those striking black and yellow stripes around the wing and fuselage.

I used Xtracolor for my model, utilising X121 for the overall colour with Humbrol gloss 69 (lemon yellow) and Revell gloss 07 (black) for the stripes.

DECALS

The decals within this kit are not made by AMT/ERTL – instead they have been produced by Superscale. The quality of these markings is therefore very good. The carrier film is thin and almost invisible once applied. They are in register and the little squadron emblem on the Royal Navy example is perfect. Each reacted favourably to Micro Sol and Micro Set solutions, with the images settling over all the raised panel lines admirably.

Decal rating: 8/10.

CONCLUSION

It is really nice to have this kit back once again, and more so since it is injected in a far more 'user friendly' colour and type of plastic. Considering the original mould's age, this kit has stood the test of time well and it is a product I am sure many modellers will be wanting to purchase; they will not be disappointed.

There are a few minor and niggling fit problems (see 'Construction'), but on the whole are not enough to detract from the quality of the overall kit. I am sorry to see raised panel lines, but that is what the original had and it is very costly to revise a tooling to engraved lines. Anyhow, if you want recessed lines, sand all the raised one off and rescribe them all, after all, you are a modeller aren't you?

RECOMMENDATION

This is a good, well engineered and produced kit and is dimensionally accurate. It goes together well straight from the box, but has ample scope for the super-detailers amongst you and is well worth the asking price. *Thanks to AMT/ERTL for the review sample.*

Richard A. Franks

TECHNICAL DATA

Manufacturer: AMT/ERTL
Scale: 1:48th
Price: £9.99
Type: Injection moulded plastic
Kit No.: 8622
Plastic parts: 67 (2 = not required)
Clear parts: 7
Decal options: 3
No. 126840 VMC-1 US Marines
No. 127950 VC-11 US Navy
WT984 Royal Navy
Distributor: AMT, Falcon Road, Exeter EX2 7LB
Telephone: (01392) 445434

AIRLINE HOBBY SUPPLIES DECALS

Two recently released decal sheets in 1:144th scale by Airline Hobby Supplies of Ontario, Canada, will be most welcome by the British modeller. Too often the only 1:144th scale decals available for airliners are of airlines of the American continent. There are of course some exceptions. It is understandable that these decals come from Canada since both liveries are seen in Canada.

Sheet AHS4022 is for a Caledonian Airways Lockheed L-1011 TriStar. Both Revell and Airfix kits of this model are readily available so the problem that often arises with conversion kits of not being able to get a kit to modify should not arise. Otaki or MPC kits are equally suitable.

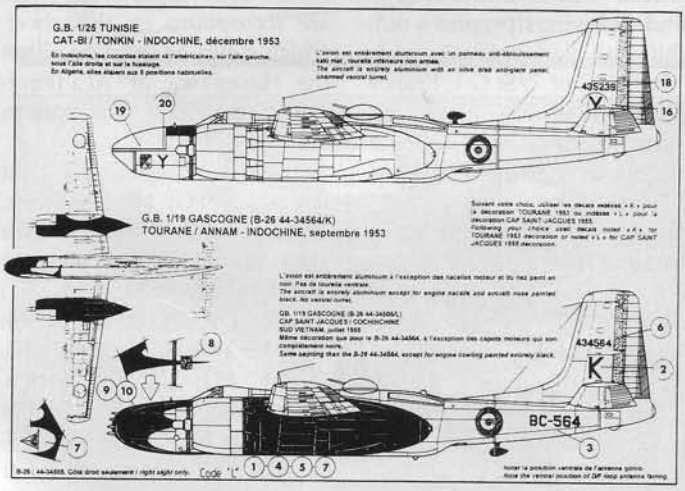
The decals provide the fuselage stripe, door markings, the registration letters, names, logo and the lion motif for the fin. All the yellow decals have a matching white one so that the strength of the yellow is not dulled by the underlying dark blue of the painted surface to which they are applied. The markings are for four: G-BBAE TriStar 100 *Loch Earne*, G-BBAI TriStar 100 *Loch Inver*, G-BBAJ TriStar 100 *Loch Rannoch* and G-BEAL TriStar 50 *Loch Moy*.

The only decal not provided is the Rolls-Royce decal for the engine which could not be produced due to copyright. It seems that Rolls-Royce have missed out on a bit of advertising at no charge to themselves!

Sheet AHS4029 is for an Air 2000 Airbus A320-200 which is available as a Revell kit in Lufthansa colours. The sheet provides markings for their four current machines, G-OOAA, G-OOAB, G-OOAC and G-OOAD. This kit has pierced windows, so window decals are not required, but the last few windows to the rear of the fuselage are covered by the cheatline decals and will therefore have to be pierced when dry before glazing the windows with Crystalclear or similar substance.

Both decal sheets have clear notes on the colour schemes and instructions as to where and in which order to apply the decals. The are available in the UK, price £5.35 per sheet from The Aviation Hobby Shop at West Drayton to whom enquiries should be made and to whom we are indebted for the review sample. A coincidence that the AHS should be stocking AHS decals!

Brian Thorne



INVADER SHEET FROM HI-TECH

It would be quite interesting to see just how many items have been produced around the world over the past 12 months for the Monogram 1:48th scale A-26 Invader. There never seems to be a month pass without a new decal, detail or conversion set arriving on the scene: 'you've never had it so good'!

Recently I was passed a new decal sheet from the French company of Hi-Tech by Mary-L Models . Now, we all know Hi-Tech because of their excellent detail sets, but this is the first decal sheet I have come across from them. It is not surprising therefore to find that this sheet is number 48.001, and it is entitled 'Douglas A-26 Invader Indochine — Algerie 1953-1963'. It contains markings for no fewer than seven aircraft and these are: G.B – 1/91 Bourgogne, Tourane/Annam – Indochina July 1954; E.R.P – 2/19 Armagnac, Tourane/Annam – Indochina May 1954; E.R.P – 1/32 Armagnac, Oran – La Senia – Algeria November 1963; G.B. – 2/91 Guyenne, Oran – La Senia – Algeria October 1962; G.B. – 1/91 Gascogne, Bone-Les-Salines – Algeria January 1958; G.B – 1/25 Tunisie, CAT-BI/Tonkin – Indochina; G.B – 1/19 Gascogne, Tourane/Annam – Indochina September 1953. *(Don't ask, it's all French to me!)*

The first five aircraft are gloss black overall, whilst the last two are aluminium overall.

Being someone who only considered the A-26 when I thought about French Air Force colours, this new sheet is a godsend to me. My only problem now is: which one should I build and whether I can resist only making just one!

Hi-Tech products are stocked by Hannants and Mary-L Models within the UK and this review sample, as I said, was passed to me by Mary-L. The price was £5.99 and they can be contacted at Mary-L Models, 100 Home Orchards, Cotswold Mews, Yate, Bristol BS17 5XG. Telephone (01454) 880396.

My thanks to John at Mary-L Models for the review sample. Highly recommended.

Richard A. Franks

THE LATEST FROM MSAP

Recently received in the editorial office were eight new decal sheets from the Canadian company of Ministry of Small Aircraft Production. This month, we review one 1:72nd scale and four 1:48th scale offerings, all for very topical subjects. More next month!

I will start with the 1:72nd scale sheet, which is number 7216 and is for the PBY Catalina. Obviously created for the excellent range of Catalina kits produced by Academy-Minicraft, the sheet offer schemes for four aircraft. They are:

PBY-5A, USN, North Atlantic, 1942. Colours: blue grey upper, light grey underneath. This aircraft carries a full array of fuselage and wing-mounted radar.

PBY-5A, No.111 Air Sea Rescue Flight, RAAF, January 1945. Colours: blue grey upper, black underneath. This aircraft has flame damper exhausts and carries wing-mounted radar.

PBY-4, VP-21, Philippines, 1939. Colours: overall aluminium with hull and float bottoms gloss black. Rudder, elevators and spinners are red, lower half of cowling and chevron are willow green.

PBY-5A flown by Flight Lieutenant Hornell, VC, No.162 Squadron, RCAF, June 1944. Colours: top of wings, horizontal tail, cockpit and nose are dark sea grey and dark slate grey, the rest of the aircraft is white. This aircraft carries a full array of wing and fuselage radar.

Now let's move on to the 1:48th scale offerings. The first, number 4840, is for the Douglas SBD-3/4 Dauntless and is obviously created with the new Hasegawa kits in mind, although the Accurate Miniatures examples shouldn't be long arriving. There are five options on this sheet and they are:

SBD-3 US Fleet Aircraft tactical Unit = overall light grey.

SBD-3 of Commander Howard Young, Commander *Enterprise* Air Group = blue grey upper and light grey underneath.

SBD-3 *USS Enterprise* = blue grey and light grey scheme.

A-24A Banshee (USAAF SBD-4) Selma Field = olive drab and neutral grey scheme.

BD-4 of V-71 or V-72, *USS Wasp*, Guadalcanal, 7th August 1942 = blue grey and light grey scheme.

The A-24A Banshee scheme on this sheet gets my vote – something a bit different.

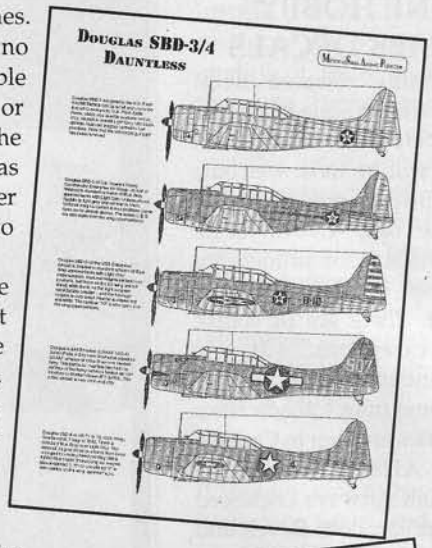
Now we change era with the next sheet as we move back to the First World War with sheet number 4841, which is for the Spad XIII.C1 and is a follow on from their earlier example, both of which are obviously intended for the excellent Dragon kit. World War 1 topics can always be very colourful and the three examples on this sheet are very nice. They are:

Spad XIII.C1 flown by Captain Robert Soubiran, 103rd Aero Squadron = finished in standard six colour camouflage scheme.

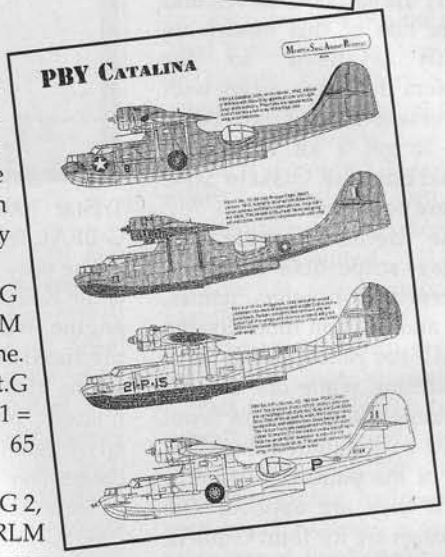
Spad XIIIC.1 of No.23 Squadron, RFC, February 1918 = This is an early version of the Spad XIII, with rounded wing tips. It is also in the standard six colour scheme.

Spad XIIIC.1 of Spa 112 = This too is an early machine and it is finished in overall doped linen with metal parts painted to approximately the same colour.

The instructions do give a full colour key for that 'six colour camouflage scheme', each FS matches. Unfortunately no match is available for light green or blue-grey and the manufacturer has offered no further information to help you there.



Back to the 1939-45 conflict now with the next sheet, number 4842, which is for the Junkers Ju 87B Stuka and is obviously intended for the new Hasegawa kits, although the older Airfix example is just as appropriate. There are five schemes on this sheet and they are:



Ju 87B of III/St.G 2, Russia 1941 = RLM 70/71 and 65 scheme.

Ju 87B-2 of 4/St.G 2, North Africa 1941 = RLM 70/71 and 65 scheme.

Ju 87B-2 of 3/St.G 2, Balkans 1941 = RLM 70/71 and 65 scheme with rudder, wing tips and nose in RLM 04 (yellow).

Ju 87B-2 of 4/St.G 2, Libya 1941 = RLM 79/80 and 78 scheme with white fuselage band and wing tips, plus a red, white and black spinner.

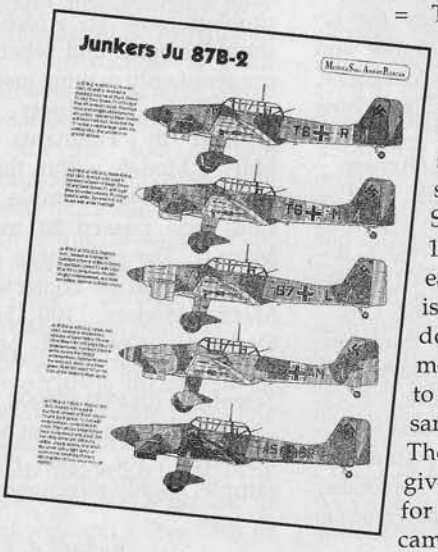
Ju 87B-2 of 7/St.G 1, France 1940 = RLM 70/71 with all under surfaces and national insignia over painted in RLM 22 (black).

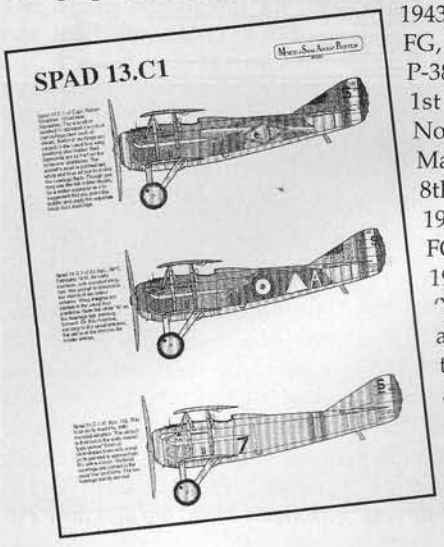
Staying with World War 2, but changing sides now, we move onto the next sheet, number 4843, which is for the P-38F/G/H Lightning. There are six options on this sheet, which could be used on either the Hasegawa or Academy-Minicraft models. The options are:

P-38H of Don Bellows, 431st FS, 475th FG, New Guinea, September 1943; P-38F of 27th FS, 1st FG, Tunisia, summer 1943; P-38G of 338th FS, 55th FG, UK September 1943; P-38F of Jack Ilfrey, 94th FS, 1st FG, North Africa, November 1942; P-38H of Major Ed Cragg, 80th FS, 8th FG, Rabaul, October 1943; P-38F of 27th FS, 1st FG, North Africa, early 1943.

'You can have any of the above aircraft as long as they are in olive drab and neutral grey, guv!!'.

Richard Franks

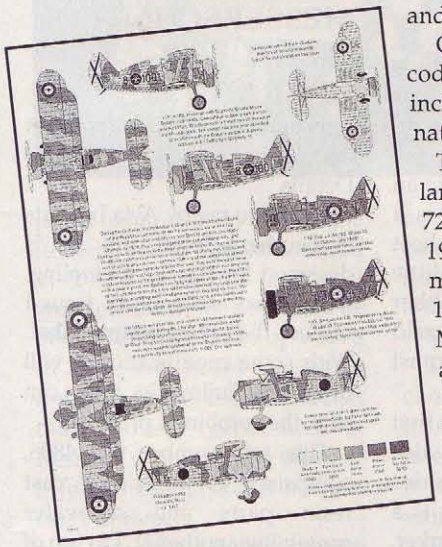




NEW FROM TALLY HO!

I have come across decals from this Canadian company before and was most impressed by their entire production and presentation. It was rather pleasant therefore to receive a batch of the latest decal sheets from them, via the editorial office.

I have six sheets, four in 1:72nd scale and two in 1:48th scale. I will deal with those in 1:72nd scale first. I will start with sheet number 7129, which is for the Grumman F6F-5N Heilcat. This is a single aircraft sheet and it is for an F6F-5N of VF(N)-90 on board *USS Enterprise* in 1945. The decal sheet consists of just the outline style wing and fuselage star and bars, plus the tail marking (an arrow head with the number 18 on it).



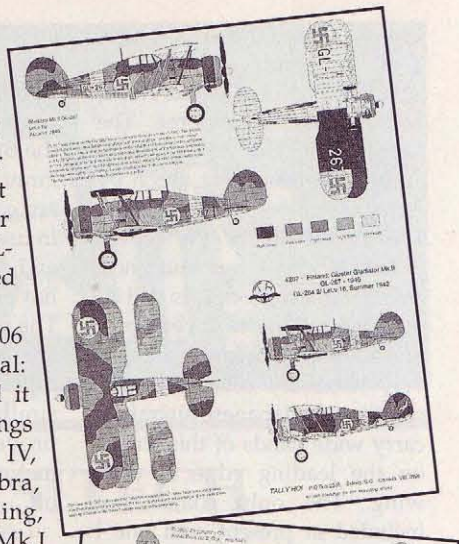
Next comes sheet number 7133, which is entitled 'China: 1937-1938' and contains markings for a Curtiss Hawk II and III, Polikarpov I-152, I-153 and I-16, Dewoitine D520c, Fiat CR.32, Henschel Hs 132A and a Gloster Gladiator. Note that in the usual Tally Ho style, this set only has one set of national insignia, plus all the specific aircraft numbers.

Now we move to the bigger, 82 x 100 mm sized sheets. The first of these is 7208 and it deals with Messerschmitt Bf 110C/E/F night fighters. There are seven options on the sheet and these are: Bf 110C-2 G9+GA of Stab/NJG 1; Bf 110D-1 G9+AC of Stab II/NJG 1; Bf 110D-1 G9+BS of 8./NJG 1; Bf 110D-3 L1+BH of 1.NJG 3 and Bf 110D-1 of 2./NJG 3.

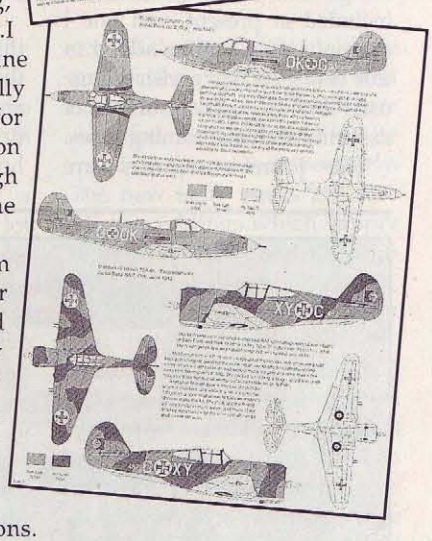
Once again all the specific codes and markings are included, but only one set of national insignia.

The next sheet is also of the larger size and it is number 7218, which is entitled 'Spain 1939-1950' and contains markings for Polikarpov I-15, I-152 and I-16s, Messerschmitt Bf 109B, E and Fs and Heinkel He 112s. The set offers unique markings for no fewer than 14 aircraft, although only a few sets of national insignia are included.

Now I will move on to the 1:48th scale sheets. The first, number 4207, is entitled 'Finland: Gloster Gladiator Mk.II' and it has markings for Gladiator's GL-264, GL-267 and a ski-equipped GL-270.



The final sheet is 4206 and this is 'Portugal: Fighters 1940-1950' and it contains unique markings for a P-36C Mohawk IV, Bell P-39D Airacobra, Lockheed P-38F Lightning, Supermarine Spitfire Mk.I and a Hawker Hurricane Mk.IIc. The sheet is basically all the unique codes, etc. for these aircraft, plus a selection of national insignia although not enough to do all the options.



These new sheets from Tally Ho are up to their usual high standards and having used these on a few models in the past, I can assure you that they work very well and react well to both Microscale (Superscale) and AeroMaster's set of decal solutions. Although these products came direct from the manufacturer, the UK importer is Stan Overall at Four Plus (UK) and he can be contacted at 29 Westwood Gardens, Hadleigh, Benfleet, Essex SS7 2SH. Telephone (01702) 559308).

The prices in the UK for the above sheets should be: 7129 £1.75, 7133 £2.50, 7208 £3.25, 7218 £3.25, 4207 £3.25 and 4206 £3.25.

My thanks to Tally Ho for the review samples.

Richard A. Franks

MORE 'WARBIRD COLOURS' FROM AEROMASTER

Judging by the interest in the range of enamel paints from AeroMaster, which I witnessed at last year's IPMS Nationals, this is now a well established range of colours for the modelling community. Initially the paints only dealt with World War 2 Luftwaffe and US colours, and not all colours for these topics were covered.

Some time ago that news arrived that further colours within this range were to be released. Although I did not have many details to start with I soon discovered that the new colours were: more Luftwaffe (desert), plus modern US, World War 2 Russian, World War 2 French, World War 2 Finnish, World War 2 Japanese and most importantly for this country, World War 2 RAF. I have been was passed a few of these new colours by the UK importer, Mary-L Models of Bristol.

The selection of colours I had were as follows:

Luftwaffe: 9033 RLM 78 Hellblau, 9034 RLM 79 Sandgelb, 9035 RLM 80 Olivgrun and 9036 RLM 04 Gelb.

Japanese (World War 2): 9090 Navy green, 9091 Navy grey, 9092 dark army green, 9093 medium army green, 90943 earth brown, 9095 army grey, 9096 army/navy brown primer 9097 army/navy ID orange yellow.

Finland (World War 2): 9080 olive green and 9082 light blue.

I must admit that when I first saw the Luftwaffe desert colours I was a little taken aback as they were unlike what I had come to expect from these colours. However, they are matched to all contemporary sources, like the Kookaburra and Monogram books. I suspect that RLM 79 and 80 are an odd and difficult subject, as many Luftwaffe aircraft were initially painted with Italian sand and mottle green, so I think this may be where the confusion lies.

The Japanese colours are, to say the least, stunning! I have

waited a long time for some 'real' authentic colours for Japanese aircraft of World War 2, and at last I have some. The supply of a dark and medium army green is a neat touch by AeroMaster to include them. The availability of the brown primer is a real treat and one I am sure many modellers will be only too willing to invest in it. The ID orange yellow is another very necessary colour, as it is common for Japanese aircraft to carry wide bands of this colour on the leading edge of each wing. The only colour not included at present, and one I can only hope will be added in due course, is that garish orange used on the under surface of experimental and training types.

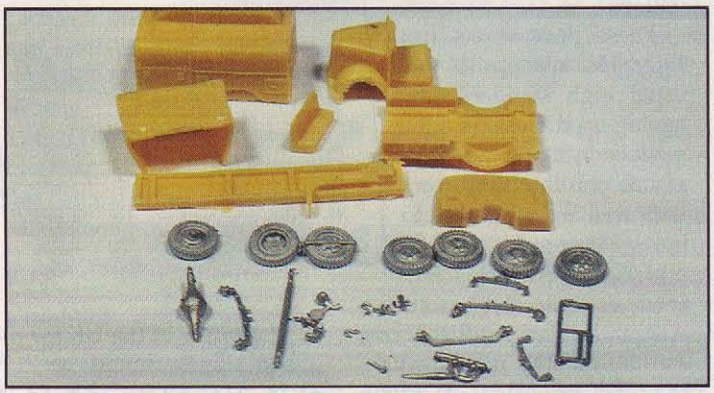
The Finnish colours are another real boon and as I have been waiting to do a Finnish Buffalo from the AeroMaster resin conversion and some of the Bf 109s etc. offered on their Finnish Aces decal sheet, these are colours which will soon be in use. The yellow is very good and different to any other sort I have come across, very intense! The olive green and light blue are also interesting, and the difference in tone over other similar colours just goes to prove that close approximations on colours can be way off.

I can only say that as far as this reviewer is concerned, these paints are excellent. They are all *enamels* and they will dry is a short space of time (one hour).They do not rub off as I have found with other types of model paint. I proved this by handling the leading and trailing edges of a 1:48th scale Bf 110 for a considerable time, with no effect on the paint at all. All the AeroMaster colours are designed to spray, but they can be hand brushed if you must. The range is completed with matt, satin and gloss varnish ('clear' if you are American), plus glaze to assist the flow of the paint through the airbrush and two sizes of thinner. Remember if you use these paints in conjunction with AeroMaster decals there is no need to gloss varnish the model before decal application.

Well, all I can say is that these are more of an already proven range of excellent paints and I would urge all modellers, whose topic of interest these paints now cover, to give them a try. The UK price per glass bottle is £1.65 and although this seems high remember that they are thinned by 20 per cent and one bottle of RLM 76 lasted for a few 1:48th scale aircraft.

My thanks to Gaston Bernal Jr of AeroMaster and John Evans of Mary-L Models for the chance to try out these new colours and I look forward to further expansion on the range. All AeroMaster products can be obtained from Mary-L Models at 100 Home Orchards, Cotswold Mews, Yate, Bristol, alternatively give John a ring or fax on (01454) 880396.

Richard A. Franks

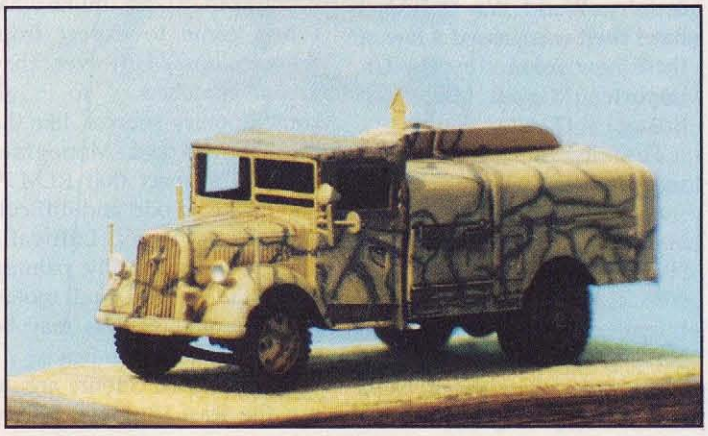


NEW RANGE FROM AIRFIELD ACCESSORIES

Following on from my review of Airfield Accessories range of 1:144th scale bits and pieces (see Vol.1 No.5), I was passed this new 1:72nd scale Opel Blitz Fuel Tanker by the manufacturer at the recent Barnet Model Show.

This is the first in a new range of 1:72nd scale accessories, which is hoped will expand over the coming months. This first kit, number AA72.01, is a three ton fuel tanker based on the Opel Blitz chassis. The kit contains seven resin and 24 white metal components.

The resin parts are well cast, but there is a bit of flash to remove before they can be used. I only noted a few air bubbles in my example and all of these were out of view underneath. The white metal parts are excellent, with fine detail and next to no flash at all. Only the smallest amount of preparation will be required before any of these pieces are used.



Construction could not be easier and the kit does include an instruction sheet with four exploded view diagrams to assist you during assembly. Jsu about all you need to make an excellent little Opel Blitz is a piece of thin clear plastic sheet for the windscreen and a little time to complete the job. Other than that this model should cause little concern to most modellers.

This kit, as I said, is the first of a new line and I was also shown the second in the series by the manufacturer. This is a towed Luftwaffe fuel tanker, kit number AA72.02. The prices for these two kits are £12.00 for AA72.01 and £11.00 for AA72.02. On top of this you should 10 per cent towards post and packing.

All of the Airfield Accessories range can be purchased direct from the manufacturer at 23 Clarence Road, Capel-Le-Ferne, Near Folkestone, Kent CT18 7LW.

If you want to place a telephone order the manufacturer has a 24 hour answerphone service and he does accept Visa and Mastercard: the number is (01303) 246331.

My thanks to Airfield Accessories for the chance to review this item and I look forward to seeing what comes along in the future.

Richard A. Franks

MESSERSCHMITT 'KURFURST' UPGRADE

This new Me 109K upgrade set has just been issued by Cooper Details.

Passed to me by Avia Imports at Southern Expo, this set is designed for the Revell tooling, which has also been issued under the Monogram label. With some modification it will fit the new Fujimi kits, if you can stick the combined price tag.

This set, number CD 4806, comprises 14 individual cast resin parts and a wafer containing another 11. On top of this is a white metal tail yoke and wheel, plus a small fret of etched brass with 31 pieces on it. The etched components give not only complete brass seat belts, the manufacturer also gives you the option of using etched buckles along with tape, etc. to make your own (something this reviewer *will not* be doing!).

The resin pieces centre around the cockpit area and they consist of new cockpit side walls, new floor and seat pan, rear bulkhead, instrument panels, engine cannon breech cover, Revi 16 gun sight, control column, rudder pedals, trim wheels and throttle quadrant box. The remaining resin pieces are the exhaust stacks, main undercarriage inner doors and wing machine guns. The etched pieces, apart from the seat belts and buckles, are the throttle

levers and FuG 16ZY blade aerial.

Overall this set will add a hell of a lot to your kit, which ever one you fit it to. However, all this excellence and quality comes at a price. Its shipment from the US and the customs little addition to its overall price do not help things. As a result the UK retail price is £12.95 and you will have to add another £1.50 for post and packing. This is an expensive set, but its quality and accuracy cannot be faulted. If you want the best, this is it.

Thanks to Mike at Avia Imports for the supply of this review sample, it is highly recommended. This and all other Cooper Detail products are available from Avia at 56a Priory Road, Peterborough, Cambs PE3 6EE. Telephone (01733) 349072 for credit card orders.

Richard Franks

Ju 388 CONVERSIONS FROM RESITECH

It had to happen. As soon as the Junkers Ju 188 was announced in 1:48th scale by Dragon I wondered how long it would be before someone came up with a Ju 288 or even Ju 388 conversion for it. The news soon came that those lovely gentlemen at Resitech were going to produce a Ju 388 conversion – not just one but three!

It has been a while coming but all three conversions were launched by Resitech at the Southern Expo in early April. Our review sample arrived a bit later, during the Barnet Model Club Show, and this review will be restricted to a look at the contents as it is our intention to build the conversion as a full article in a forthcoming edition of this magazine.

The conversion option I chose was the 'L' series prototype, simply because I intended to build my example in its captured 'Air-Min' colour scheme.

The conversion consists of 22 resin, two vacuformed plastic (white), three clear and 31 white metal parts. To use the conversion you can use either of the Dragon 1:48th scale Junkers Ju 188 kits (A-1 or E-1) *or* the Dragon 1:48th scale Junkers Ju 88 (G-6 or G-1/G-10) as the necessary wing tip extensions are included in Resitech's set.

The conversion will be a major one, as there is quite a lot of additions to be made to either the Ju 188 or Ju 88 kits. The Dragon kit was tooled to allow both types to be made with a common fuselage and a separate cockpit/nose area, this is a benefit to Resitech, as it allows them to create a new nose for the Ju 388 which simply replaces the one in the kit. The new BMW 801TJ powerplants are moulded as direct plug-in units and you will require a nifty bit of work with a razor saw to remove the pouring blocks off the under surface to the rear of each. The biggest change also includes the only real bit of surgery to the kit and this is the tail. The entire rear end of the Ju 388 was different from the Ju 188 or Ju 88, as it was intended to have a remote barbette fitted. To achieve this you will have to saw off the back of the fuselage and fit the new tail cone and barbette mount, which are supplied as resin and white metal components respectively. The new belly packs are nice resin mouldings which simply replace the flat insert given in the kit.

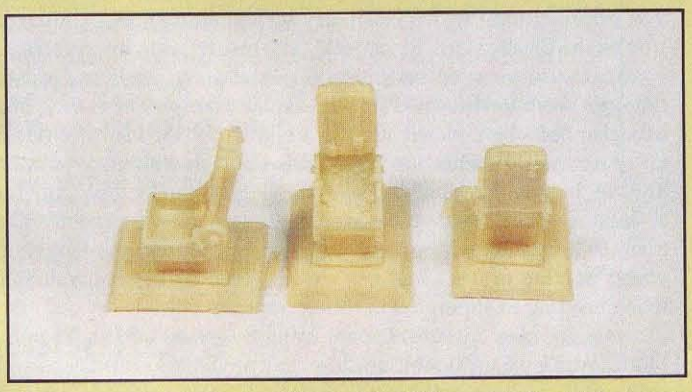
Depending on which option you make, will determine the colour scheme you use. As I said I intend to make mine in 'Air-Min' markings, but which ever version you buy, the kits instructions also include a detailed colour painting guide (although no diagrammatical illustrations are included).

Overall this is an excellent conversion and will make up into an impressive model. The price is £24.99 plus post and packing and they can be obtained from some specialist suppliers, or direct from the manufacturer at Unit 6, 1B Packington Square, London N1 7UA.

My thanks to Resitech for the review sample.

Richard A. Franks

ARE YOU SITTING COMFORTABLY?



Following on from their Ju 388 conversions, those nice chaps at Resitech decided to package separately and offer the correct style of seat for use in your 1:48th scale Junkers Ju 88. The seats are well cast, with no bubbles and little in the way of imperfections. They do have the seat belts moulded on, although I suspect I would remove them and replace them with etched examples from the Reheat range (however, this is my personal view only).

You should note that these seats are *not* the correct style for the Junkers Ju 188, so you cannot use them there and I suspect that the lack of back/head armour on them may make them inappropriate for the pilot of the later Ju 88 series.

Overall a nice little package, which for a very reasonable price (£3.00) will enhance your model. My thanks to Martin at Resitech for the supply of these seats for review.

These and all other Resitech products can be purchased direct from them at Unit 6, 1B Packington Square, London N1 7UA.

Richard A. Franks

NEW FROM REHEAT

As many of you will know I consider the Trowbridge-based company of Reheat to be the best manufacturer of etched brass in the UK. This is a purely personal view and I am sure that some will agree fully with whilst others pooh-pooh the idea. Anyway less of my contentious views and more about the products.

The most recent sets from Reheat were recently passed to me by the manufacturer and they mark the rapid expansion of the range with the arrival of their 100th set. Here we review sets RH094, 095, 096, 097 and 101.

The first set, RH094, is entitled 'F-84F Thunderstreak Detail Set' and it is designed for the Monogram kit in 1:48th scale. The fret consists of 51 parts and these include a four part instrument panel; for use with the 'Reheat System', side console and side wall detail, a new ejector seat and harness, perforated air brakes, drop tank filler plates, gun sight, canopy detail, blade aerials and undercarriage torque links.

The second set, RH095, is entitled 'Spitfire Mk.1/5 Detail Set' and it is designed for the Tamiya or Hasegawa kits. The fret contains 38 pieces and these are two part instrument panel (for use with 'Reheat System'), compass carrier, side wall levers (undercarriage retraction,etc.), seat, harness, rudder pedals, gun sight, access door and crow-bar, rear view mirror, undercarriage retraction locks and a full set of slip flaps.

Next is set RH096, 'RF-84 Thunderflash Detail Set', which is designed for the 1:48th scale Heller kit. The fret contains 49 pieces and they are four part instrument panel (for use with the 'Reheat System'), side wall and side console details, complete ejector seat and harness, air brakes, drop tank filler points, gun sight, canopy detail, rear view mirror and undercarriage torque links.

Moving quickly along we have set RH097, which is entitled 'F-86 Sabre Detail Set' and is designed for the 1:48th scale Monogram/Esci kits. It consists of 48 pieces which include: both Canadair and North American style instrument panels (2 parts each), side console detail, seat complete with harness etc., rear view mirror, canopy sill detail and a set of air brakes.

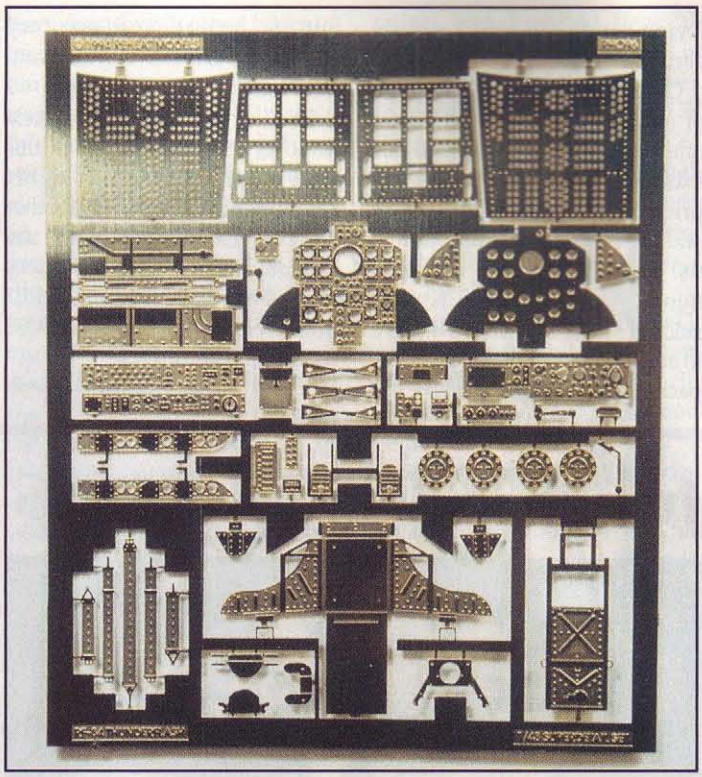
Finally, set RH101, which is entitled 'F4F-4 Wildcat Detail Set' and is for, surprise, surprise, the Tamiya 1:48th scale kit. There are 44 pieces on this fret and they are: two part instrument panel (for use with the 'Reheat System'), side console detail, seat harness (although the seat is not mentioned in the instructions), F4F and F4F-3 style antenae, external tank brackets, pitot tube, wheel well door braces, canopy runners, gun sight, control levers (elevator tab, etc.), tailwheel castor lock and an engine ignition loom.

All these sets are up to the usual excellent standards that Reheat always set and nearly every bit on each fret will be usable (except that 'flat' pitot tube!).

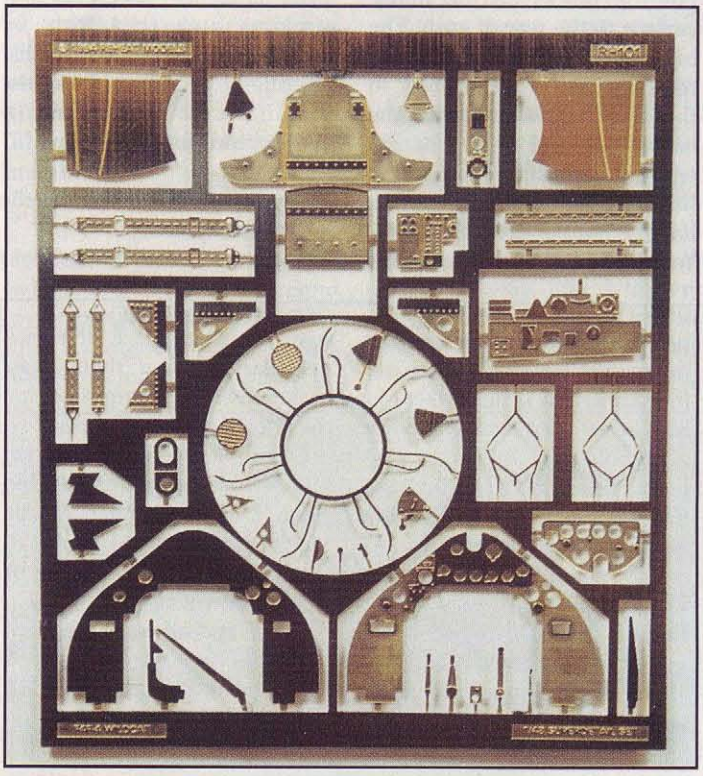
Each of the sets reviewed above cost £5.95 plus 35p post and packing from the manufacturer. Their address is Reheat Models, 1A Oak Drive, North Bradley, Trowbridge, Wilts BA14 0SW.

My thanks to Mike at Reheat for the supply of these review samples.

Richard A. Franks



Reheat's superb set RH096 is for the Heller RF-84F Thunderflash.



Go on, treat your Tamiya Wildcat to a facelift with Reheat's new detail set RH101.

THE FULL WAX

Ever needed to polished out scuffs and scratches in clear parts? Or how about buffing up plastic to a mirror finish prior to a super-smooth metal finish? If like me you've had varying degrees of success using everything from toothpaste to metal polish, then Model Wax may be the answer.

This handy little product is a pre-softened Canuba wax than can be used on both bare plastic and painted surfaces. I tried it out on a few cockpit canopies, applying the wax with a soft rag and working it in before buffing with a clean, dry section. You know to when to stop as the plastic starts to 'squeak'. The results were impressive.

It can also be used on finished models; my dull and dusty canopies were transformed into sparkling examples of clarity. The wax also buffs bare plastic up into a highly polished surface (ideal for those metal finishes) and also adds lustre and shine to painted finishes, both enamel and acrylic, though its best to let them cure for at least a week as the wax can soften underlying paint. The manufacturers also claim it protect clear parts from the 'fogging' effects of glue fumes. Again, it's true which makes it invaluable when needing to superglue ill fitting transparencies.

In the first few minutes I spent using this stuff, I was sold on it. Model Wax is an invaluable addition to a modellers workbench and well worth seeking out. My example came in a 1.oz glass jar and retails at around £2.95. Treatment Products Ltd can be contacted at ChicagoII. 1-800-747-1, USA.

Jonathan Mock

MODELDECAL DECALS

1:72nd SCALE

A SELECTION FROM THE CURRENT LIST:

2 F-4 Phantom, late 1960s: VMFA-531 USMC, 497 TFS USAF, 767 Sqn. Royal Navy.
9 US Navy: A-1J Skyraider VA-175 1966, A-7E Corsair VA-195 1970, SH-3A Sea King 1967.
13 T-33A Luftwaffe 1968, Fiat G-91R/3 Luftwaffe 1969, F-104G Starfighter MFG1 1970.
14 RAF: Sabre F.1, 234 Sqn. 1954, Vampire FB.5 112 Sqn. 1951, Chipmunk T.10 2 FTS 1971.
15 A-7E Corsair VA-113 'Stingers' USS Ranger USN 1970, AV-8A Harrier VMA-513 USMC 1971-72, F-4B Phantom VF-111 USN 1971.
17 T-33 4th Wing RCAF 1967, F-35 Draken 725 Sqn. Danish Air Force 1971, Mosquito FB.6 4 Sqn. RAF 1949, A-4G Skyhawk 805 Sqn. Royal Australian Navy 1969.
26 RAF: Buccaneer S.2B 15 Sqn. 1974, Hunter FGA.9 58 Sqn. 1974, Canberra B.2 10 Sqn, 1956, Gazelle HT.3 CFS 1973, Royal Navy Gazelle HT.2 705 Sqn. 1974.
28 RAF: Canberra E.15 98 Sqn. 1974, Lightning F.3 29 Sqn. 1971, Jet Provost T.5 3 FTS 'The Swords' 1974, Royal Navy Hunter T.8 754 Sqn. 1964.
31A (Slightly revised earlier set 31), H. Fury 1 Sqn. B. Bulldog, 23 Sqn. Siskin 43 Sqn. Gladiator 87 Sqn. plus fuselage squadron numbering for use with set 108.
33 British a/c post-war serial letters (black): 16 in, 18 in, 20 in and 24 in heights.
34 British a/c post-war serial letters (black): 30 in, 36 in and 48 in heights.
35 British a/c post-war serial numbers (black): to be used with sets 33 and 34.
37 RAF: Phantom FGR.2 56 Sqn. 1976 or 2 Sqn. 1971, Sabre F.1 20 Sqn. 1955, USAF F-111E 20th TFW 1976 in full Bi-Centennial markings, L'Armee de l'Air Mirage IIIE E.C.2/4 1976, L'Armee de l'Air CM170 Magister with several options included.
39 WW2 British roundels and fin flashes, types A and A1. Type A diameters 25, 30, 35, 40, 42, 45 inches. Type A1 diameters: 20, 28, 30, 34, 35, 42, 45, 45½ inches. Fin flash widths: 15, 18 and 21 inches.
40 WW2 British roundels and fin flashes, types A, A1, C, C1. Type A diameters: 45, 50 inches, Type A1 diameters: 49, 56 inches, Type C diameters: 40, 63 inches, Type C1 diameter: 48 inches, Type A fin flash widths: 9, 12, 24,27, 36 inches, Type C width: 24 inches.
42 British WW2 roundels, type B. Diameters: 15, 25, 30, 32, 35, 40, 44, 48, 49, 50, 54, 56, 59, 63, 66⅔ inches.
43 RAF: Jaguar GR.1 41 Sqn. 1977, Jaguar GR.1 20 Sqn. 1977, JASDF F-4E/J Phantom 301 or 302 Sqns L'Armee de l'Air F-84F Thunderstreak E.C.1/19 1961, Dutch A/F F/TF/RF-104G Starfighter, choice from either 306 Sqn. V1bVKL or 'Dutch Masters'.
45 IAT 1977(1), RAF: Lightning F.3 or F.6 11 Sqn. Hawk T.1 CFS, L'Armee de l'Air Mirage F.1c E.C. 1/12, Norwegian A/F F-5A 'Jokers' 336 Sqn., RAN Sea King HAS.50 817 Sqn.
46 IAT 1977(2), RAF: Harrier GR.3 233 OCU, Jaguar GR.1 226 OCU, Belgian A/F Mirage 5BA 8 Sqn. 3rd Wing. L'Armee de l'Air Super Mystere B.2 E.C. 1/12 plus a camouflaged alternative, Luftwaffe F-4F Phantom '37 + 69' or '38 + 57' Jabo 36.
49 Royal Navy: Sea King HAS.1 choice between 824 Sqn. 1970, 819 Sqn, 1977, 706 Sqn. 1978. HAS.2 choice between 824 Sqn. 1978, 820 Sqn. 1977, 826 Sqn. 1978 (complete markings for 1 a/c only). USN F-14A Tomcat VF-14 1976, CAF CF-104 Starfighter 429 (Tiger) Sqn. 1977. L'Armee de l'Air F-84G Thunderjet E.C.2/1 1953 or F-84E Thunderjet E.C.1/3 1953.
50 RAF: Hawk T.1 234 Sqn. 1978, Jaguar GR.1 31 Sqn. 1977, USAF Thunderjet 77th FBS 1953 or 307th FES 1952. Australian Navy A-4G Skyhawk 805 Sqn. 1977 as at IAT. L'Armee de l'Air SA330B Puma 1976-77 choice from three machines.
51 RAF WW2 (post August 1941) Sky squadron codes letters, in 18, 24, 30 inch heights, and a variety of styles, total of 286 letters.
52 RAF 1938-41 Medium Sea Grey squadron code letters in 24, 30 and 36 in heights.
53 RAF 1938-41 Medium Sea Grey squadron code letters in 30 and 48 inch heights. Sets 52 and 53 form a pair which together contain a variety of styles used in this colour, total 342 letters.
54 British military a/c red/blue roundels and fin flashing; 1970 to date. Roundel diameters: 8, 12, 18, 25, 27, 30, 36, 48, 54, 84 inches. Fin flash widths: 12, 18, 24, 36 inches. Total content is 82 roundels and 26 inches (app) of fin flashing.
55 IAT 1979. RAF: Phantom FGR.2 XV424 in Alcock and Brown commemorative flight scheme. Lightning F.3 Lightning Training Flight, Hawk T.1 63 Sqn. TWU.
56 RAF Lightning F.3 56 Sqn. 1965. Royal Navy: W. Lynx HAS.2 702 Sqn. 1978-80, choice from six options. Attacker FB.2 718 Sqn. or 1831 Sqn. 1955. L'Armee de l'Air T-33A 1976.
57 Royal Navy Buccaneer S.2 700B Sqn. 1965 or 801 Sqn. 1965 or 800 Sqn. 1971. Sea Hawk FB.3 897 Sqn. 1956 or FGA.6 810 Sqn. 1956. RAF Sea King HAR.3 202 Sqn. 1978-9. L'Armee de l'Air Alpha Jet 314 Gp.Ecole or CEAM. 1978-9.
58 British military a/c post-war serial letters (white): 16, 18, 20, 24 inch heights.
59 British military a/c post-war serial letters (white): 30, 36, 48 inch heights.
60 British military a/c post-war serial numbers (white) to be used with sets 58 and 59.
61 British mil/aircraft post-war white serial letters and numerals in current and earlier squarer styles, 48 inches.
63 L'Armee de l'Air black Sqn. codes in various styles: 240-530.
64 RAF: Phantom FG.1 43 Sqn. 1981 or FGR.2s 56 Sqn. 1981 or 19 Sqn. 1980 or 23 Sqn. 1981, all these options with three-tone grey finish. Phantom FGR.2 92 Sqn. 1977 with grey/green camouflage. Hawk T.1 151 Sqn. 2 TWU 1981. Tornado GR(T)1 TTTE 1981.
65 RAF: Phantom FG.1 111 Sqn. 1980 or FGR.2s 92 Sqn. 1981 or 64 Sqn./228 OCU 1981 or 29 Sqn. 1981, all these options with three-tone grey finish. Phantom FGR.2 23 Sqn. 1976 or 19 Sqn. 1977, both with grey/green camouflage. Lightning F.6 5 Sqn. 1981 with two-tone grey finish. R. Navy Sea Harrier, FRS.1 899 Sqn . 1980
67 R. Navy (Falklands) April-Sept 1982: FRS.1 Sea Harriers 809, 899 Sqns. All in medium sea grey schemes, one complete aircraft can be modelled from an eleven aircraft selection. RAF: Tornado GR.1 9 Sqn. or TWCU 1982. Puma HC.1 33 Sqn. 1980 or 230 Sqn. or 240 OCU 1982.
68 L'Armee de l'Air: MD450 Ouragan 2/4 E.C. 4 ATAF 1953-55, eight units represented. T-28A Fennec (Trojan) 1960, any one of five units. Alouette 111 F-MJBP Detachment d'Helicopteres de la Gendarmerie 1981.
69 L'Armee de l'Air: F-100D/F Super Sabres 3rd and 11th Escadres 1960-78, seven units represented. Mirage F.1B/C 5, 10, 12, 30 Escadres 1976-82. Aeronavale Vought F-8E(FN) Crusader 12th and 14th Flotille 1964-83.

NOTE: To allow the maximum number of squadron options, many of our sets do not include roundels, fin flashing and serial numbering. The two former are intended to come from the relevant kits or MODELDECAL sets 54 and 107 and the latter from sets 33-35, 58-61, 104-106 all as appropriate. 'MODELDECAL' style fully illustrated sheet, giving decal locations, full colour scheme details and a selection of helpful photographs is also included with most sets.

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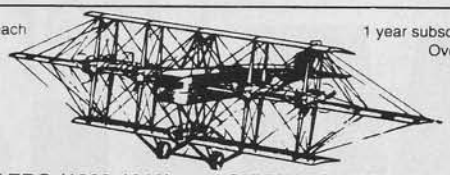

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Premier Mustang

Modelling the first of the thoroughbreds with Accurate Miniatures 1:48 P-51 kit.

by Jonathan Mock.

It's somewhat ironic that perhaps the most famous American fighter aircraft of World War Two, the P-51 Mustang, was originally designed for the British. It followed a request in 1940 from the British Purchasing Commission to North American for licence-built P-40's. North American declined, but instead offered its own original design, the NA-73, which it claimed would be superior though still based on the same engine, the Allison V-1710-39. The British agreed but, given the fact that they were at war, asked North American to deliver a prototype urgently in 120 days. They did (albeit without an engine) and the P-51 was born.

Of the early versions there were three distinct types; the P-51, the P-51A with additional nose armament and the A-36 dive bomber which featured wing mounted airbrakes. In its early days it picked up the nicknames 'Apache' and 'Invader', but these were unofficial titles, and, ironically again, it was the British who were to christen the aircraft 'Mustang'.

Kits of the early Allison engined P-51's have been rare, the only injection moulded example was Frog's 1:72nd scale rendering in the 1960's. Fans of 'quarter scale' had the Koster vac-form conversion for the Monogram P51B, but, until

the arrival of Accurate Miniatures, there were no 1:48th scale injection moulded kits. Accurate who?

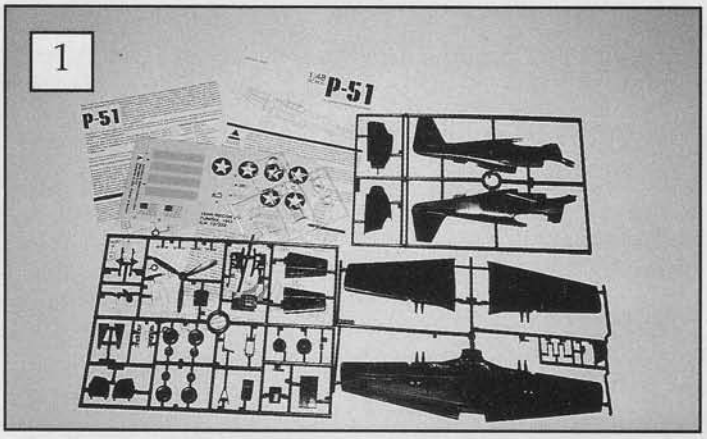
Colt Status

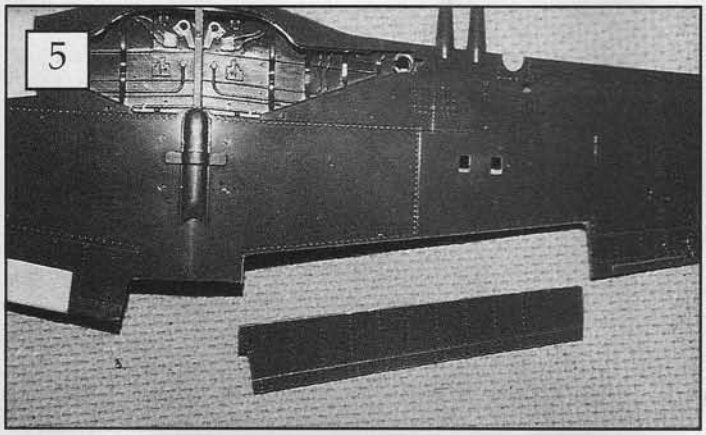
This Stateside firm is the brainchild of Bob Johnson (ex-Revell/Monogram) and Bill Bosworth. The kits are tooled in Korea with decals produced in Mexico and the whole lot being packaged in the USA. The style of moulding can best be described as Monogram detail but with recessed panel lines. Their three initial releases in 1994 were the P-51, P-51A and A-36 – an RAF Mustang has just been released – all with appropriate details and decals for each variant. With them being a new face on the scene I was keen to see what Accurate had to offer so I chose the P-51 (kit No.3400) for this project.

Small Steed

The kit comes packed in a stout, sturdy box that features a painting on the lid and photo of a finished model on the underside. All the sprues are bagged including the clear parts which are further protected under a card insert that also holds the decals. Accurate's instructions are informative with plenty of footnotes, colour details and even a paint conversion chart. The illustrations are clear, if a little sketchy in appearance, but there was nothing about them which hindered or impaired the process of actually sticking the plastic together – on the contrary, you get the impression that Accurate have actually built one of their own products and then passed on the best method of assembly.

The model follows the same kind of layout as other Mustang kits but, unlike some Korean tooling, is 100% original. Surface detail features finely recessed panel lines with a few raised fasteners around the nose. The lower wings are moulded full span with the dihedral built in. The nose sec-

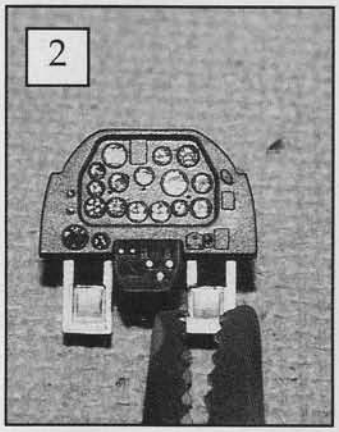




tion is in separate parts to facilitate modifications to other marks in the series (**above**).

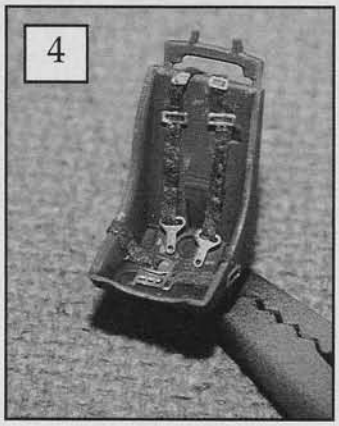
Saddle up

The kit supplies a fairly decent cockpit interior which comprises of a floor, seat, stick/linkage, rear bulkhead, side frames and instrument panel. The latter is an interesting challenge –



Accurate has moulded it in clear plastic with the instructions offering the choice of painting the panel and then just dry-brushing the details or leaving the bezels clear and applying a decal at the back for the dial details. I went for the latter and protected the bezels and the rear of the panel with Maskol before airbrushing the whole thing in dark grey. The Maskol was removed and the decals were lined up with the bezels (**Photo 2**).The result was surprisingly effective, even more so once the panel was placed inside the cockpit

The cockpit floor was sprayed interior green/zinc chromate with plenty 'scuff' marks where the pilot's boots would have worn the paint away. I painted the stick black, with the grip and fabric covering at the base brown and the central portion of the connecting bar silver – an educated guess, but it looks effective. The side wall frames were painted a darker green with the radio boxes and levers picked out in black. Two shelves of radio equipment are included for the rear of the cockpit, these being interior green with black boxes (**Photo 3**).



The seat sports some fine surface detail and the kit includes the rear support frame. This was painted dark green with straps cut from surgical tape and fitted with etched 1:48th scale buckles from the Reheat range (**Photo 4**). The fuselage interior features some basic structure detail, I sprayed these a lighter shade of interior green which contrast nicely with the separate side walls and 'lifts' the detail. Once dry I was able to add the rest of the cockpit and close the fuselage halves up, though I left the tailwheel off until later.

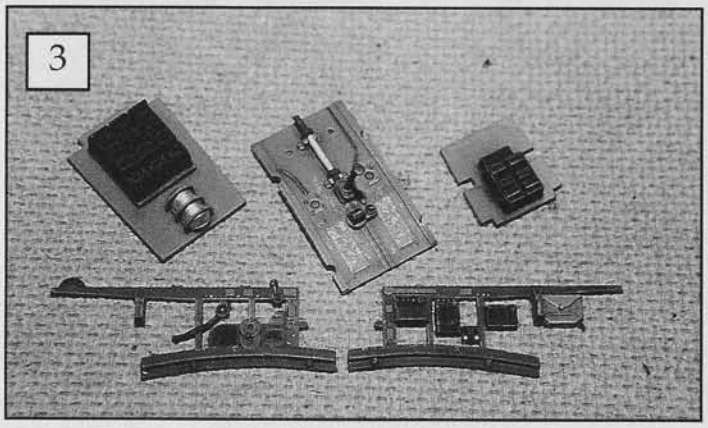
So far so good. My first encounter with Accurate Miniatures was proving to be something of a canter. Time to take on a few hurdles.

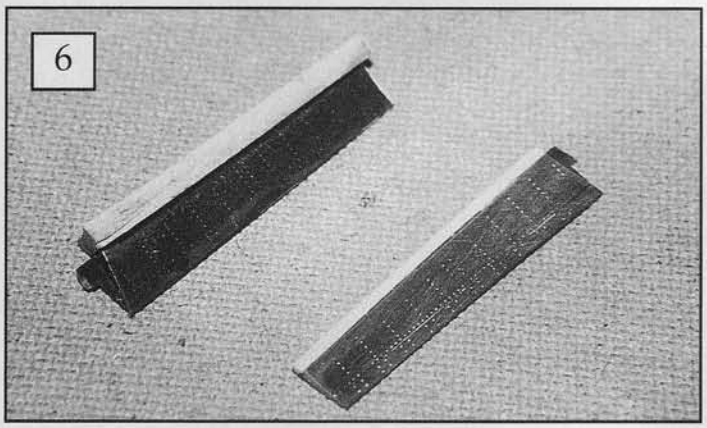
In a Flap

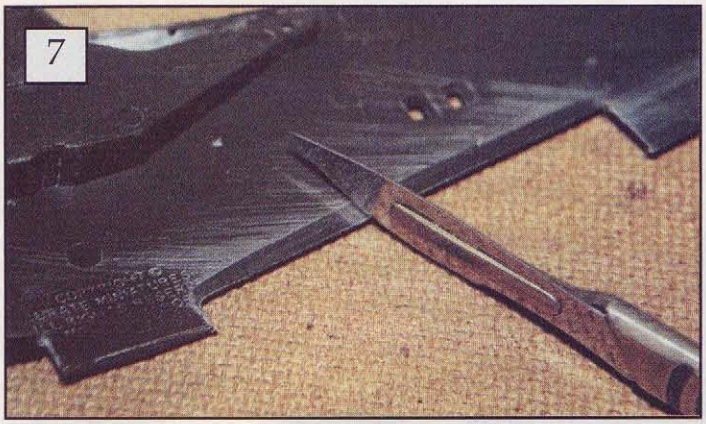
The kit has the flaps moulded in the 'up' position whereas most photo's of the P–51 show them dropped. I decided to add my own stamp to the model by carefully cutting away the flap sections on the wings with a sharp scalpel blade (**Photo 5**).

The flap parts were fixed together and left to dry while I figured out the best way of closing the rear faces. I eventually settled for a material called Masterlab (formerly Ureol). Essentially this is a 'plastic wood' (it's actually a dense urethane foam board), favoured by professional and architectural model makers. It's lightweight, easy to cut, sands to smooth finish and, unlike even the most dense 'real' woods, has no grain and so doesn't need sealing – the days of talcum powder and dope are now long gone. For hobby modelmakers it's the ideal material for major conversions and corrections, but it's also expensive and can only be obtained in large amounts so it's a good idea to get friendly with your nearest professional model maker for off-cuts and scraps. I superglued a square chuck of Masterlab to the back of the flap and cut it roughly to shape before sanding the ends to a more rounded section (**Photo 6**). This stuff also generates plenty of dust so take care.

I taped the wings together and tested the fit of the flaps against them. This revealed that some thinning of the flap bays was needed and this was achieved by 'adzing' the areas with a scalpel blade (**Photo 7**).



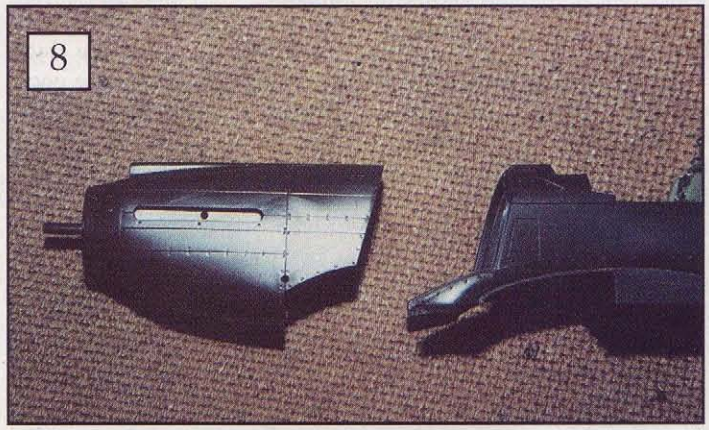




Take care not to plain to much plastic away as you may end up with a slightly curved edge when it needs to be dead straight. Another test run indicated all was well and the flaps were primed and put aside until later.

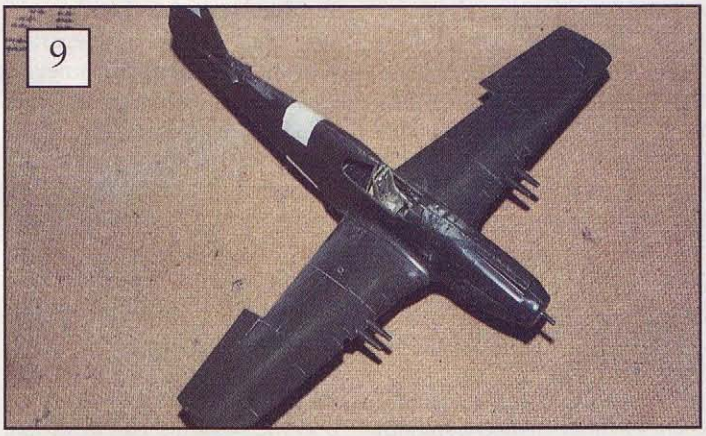
Horsepower

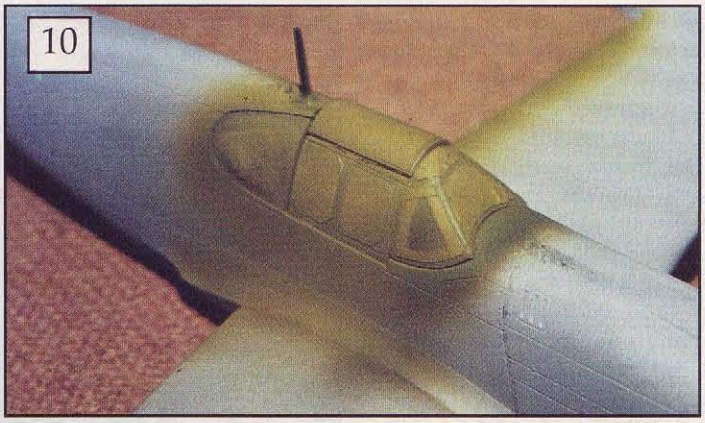
As mentioned earlier, the nose is a separate assembly and this



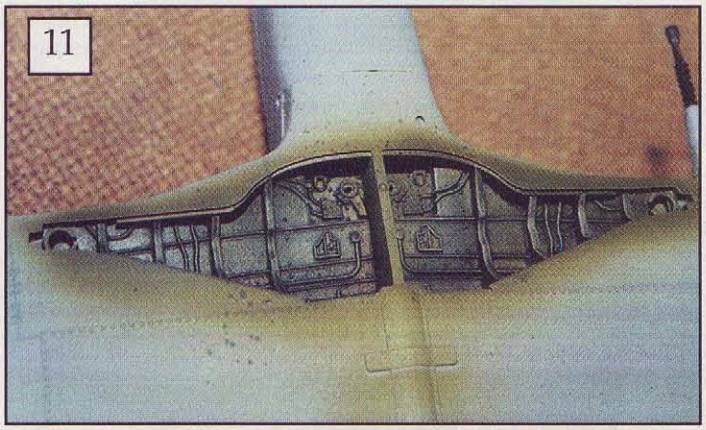
follows a natural panel break on the real aircraft (**Photo 8**). I was able to fix the nose halves together and then mate it to the fuselage – the fit on my sample was perfect. The propeller is the regular combinations of spinner, blade unit and backplate. When it came to installing the wings to fuselage I chose to fix the upper sections in place first, lightly sanding the mating areas to get a good bond before fixing into place (**Photo 9**). The fit along the root is nice and tight, the seam line was lightly sanded and then the one-piece lower section (part No.7) was added, joining the wings parts together. The dihedral effectively sets itself, though I double-checked that everything was square. The tailplanes, radiator door and cannon barrels were also added at this stage.

Two types of windscreen and main canopies are supplied, either the hinged 'greenhouse' variety or the sliding 'Malcolm Hood' which was used on a few early P-51's. I needed to use the 'greenhouse' version but decided to cut it up into three sections so I could display the interior





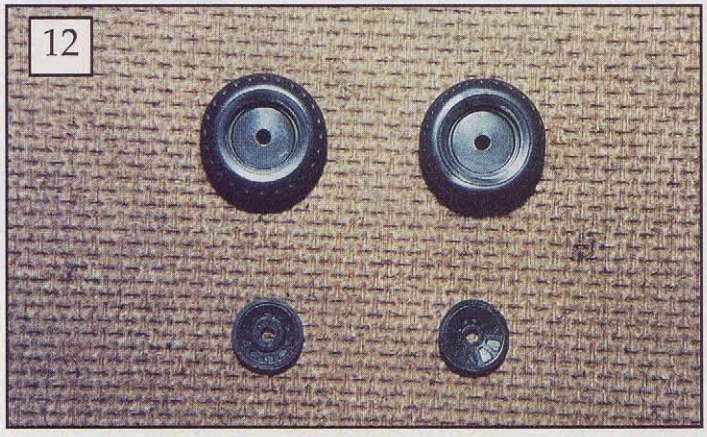
detail. First of all the canopy was masked off and then gently scored along the frame lines until the pieces snapped apart. To be honest, I would have been better off using a vac-formed canopy but I decided to run with as much of the kit as I could. The parts were then white-glued back together onto the fuselage to protect the cockpit along with the chosen windscreen and the rear panels. The clear parts were undercoated with chromate green to simulate interior framing (**Photo 10**). The windscreen was then blended into the fuselage with PVA glue.



Wheels and wells

The wheel wells are a delight, packed with detail needing little more than careful drybrush and wash techniques to yield maximum results (**Photo 11**). My references were mixed over their colours, some indicate they were overall interior green/chromate, others mention only the rear spar (the wall visible at the rear of the well) being green with the well roof being doped aluminium. I went for the all-green option for the bay and inner faces of the undercarriage doors. Everything was given a generous helping of glossy black/browns for that 'oily' look.

Accurate has a neat approach to the wheels, they mould the tyres in one-piece with separate inserts for the hub faces as well as 'flats' at the bottoms, a trend that is fast

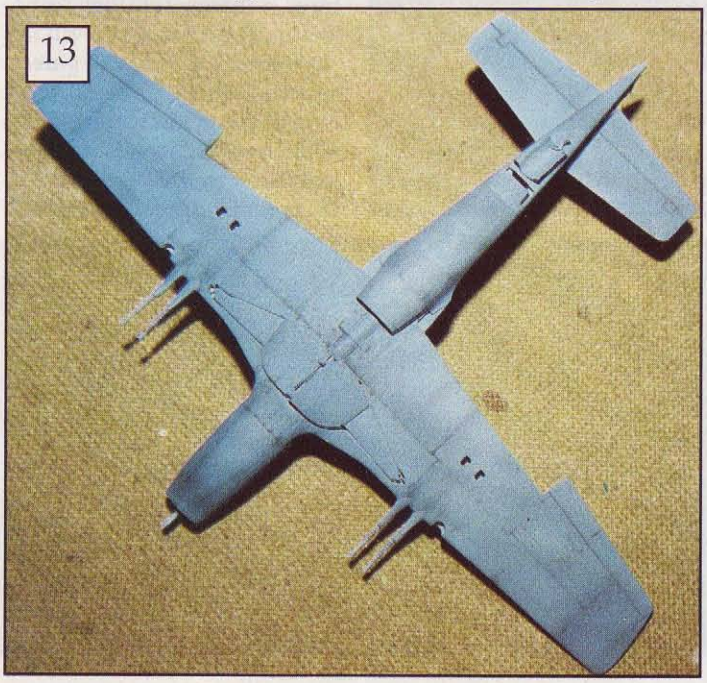


catching on with major manufacturers (**Photo 12**). Painting was simplicity itself, the tyres were sprayed dark grey, fading to black towards the centres. The treads were drybrushed with browns and sand, the hubs airbrushed flat aluminium and then simply cemented into place – foolproof! It's a method I'd like to see other manufacturers emulate on a large scale. The undercarriage legs were also cleaned up and painted flat aluminium with bright metal oleo struts. The wheels wells were masked off and the model primed. Time to add a little colour to this warhorse.

Horse Play

While researching this project I came across an old *Camouflage and Markings* book (see references) which has a good photo of the aircraft featured on the kits decal sheet, 'Mah Sweet'. It reveals the olive drab/neutral grey scheme to be in rather less than pristine condition, typical of the many aircraft that wore these colours at the time. I used Tamiya's excellent acrylics and – at the risk of upsetting some readers who are obviously obsessed with FS/BSC charts, Methuen, Munsell, Huntley, Dulux, etc – I mixed my own interpretations of the colours.

The undersides were airbrushed neutral grey (XF53), lightly shaded with a darker mix along the panel lines (**Photo 13**). For the upper surfaces I mixed two batches of olive drab (OD), one straight from the bottle (XF62) and the other toned down with a little sand yellow for 'faded' OD. The 'faded' mix was airbrushed first to build up an even finish before being broken up with the neat OD along the fuselage spine, wing root and other, random areas. The contrast was evened up with a light over spray of the 'faded' mix. The flaps were also painted, the inner faces were usually light grey so I masked and sprayed mine accordingly. The spinner was sprayed red which also acts a good base coat for the black propeller blades.



I prefer to weather my models before adding the gloss coat for the decals so I applied a heavy, watery wash of black/brown oils paints to the cowlings and then blew the excess paint along the fuselage to get a 'spattered' oil leak effect. Exhaust staining is rarely ever black, more so on aircraft painted in olive drab where the hot gasses lighten the paint. My exhaust plume was a mix of grey/sand, airbrushed on before fitting the separate exhaust stacks. I darkened the wing foot areas with black pastel dust, applied with a cotton bud. This techniques was also used for additional 'scuffing' on the top of the fuselage spine. Simulating chipped paint is a breeze, I use a silver pastel pencil honed to sharp point - try your local art store or stationary shop for them. The silver pencil lead delivers really fine 'scratches' though the technique works best on flat finishes. Subsequent coats of varnish seal the 'scratches' in and also kill off the brightness of the silver, making them look like dull aluminium showing through the paint.

Decals on

A couple of coats of Halfords Clear Lacquer created a smooth gloss surface for the decals which look a bit on the thick side but this does ensure good opacity of the lighter colours over the olive drab scheme. Just the one option is included in the kit, the aforementioned 'Mah Sweet' of the 154th Observation Squadron which took part in operations over North Africa. The *Camouflage and Markings* photo indicated that the first character of the serial number overlapped with the yellow ring of the fuselage roundel, while the nickname on the nose is almost unreadable – I decided to keep it legible on my model. The sheet also supplies the yellow ident band for the wings and while these worked well enough I would probably still mask and airbrush these features on future models. Take care when applying the bands as the yellow tends to darken where the decals overlap. I had to cut segments off for the separate flap and I tidied up any uneven ends once everything had dried. The decals nestled down well over the gloss finish and reacted well to applications of Super Sol and Super Set (**Photo 14**).

A very light coat of olive drab was sprayed over the markings to tone them into the paintwork – nice, bright roundels on a tatty aircraft just don't look right! The dead-flat

finish came courtesy of Humbrol's Mattcote.

Unmasked

The clear parts were unmasked and the central portion was carefully prised apart and re-fixed in the open position. The pilot's access and entry was from the left (port) side, the side panel hanging down against the fuselage while the upper portion hinged upwards. I used a little plastic strip for the suggestion of interior framing and added etched handles. In order to get the the tailwheel into place I needed to shave a little off the top until it would hook into the slot inside the fuselage half - a tricky manoeuvre but I found it preferable to the hassle and danger of damage had I installed it at earlier stage.

The wingtip navigation lights were touch with green and red as were the underside lamps which were red/green/amber, all glazed with Humbrol's 'Clearfix'. A final touch was to add an aerial line using invisible thread. Don't worry if you can't get the line taut first time, the slack can be taken up holding a heated screwdriver close to the thread – best to practise first on an old model though. The undercarriage legs and smaller detail parts were added, the propeller slipped into place and she was finished, the first of the Mustang's.

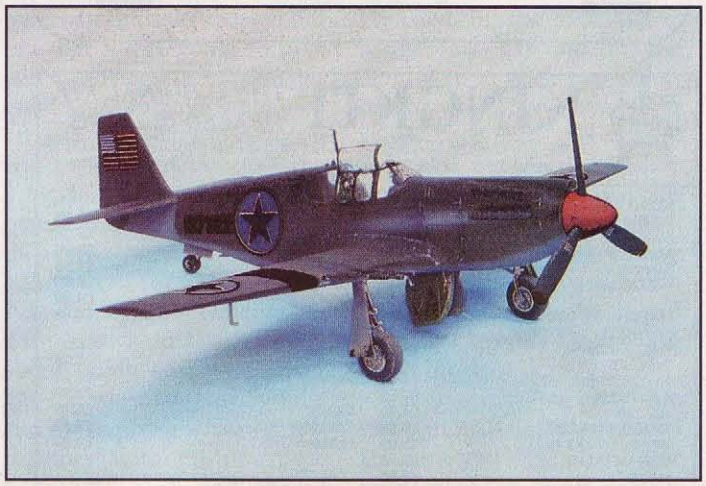
A smooth ride

The Accurate Miniatures P-51 looks every inch a thoroughbred and the kit was almost trouble free to build. The sensible engineering breakdown and simplicity of fit results in a model that is almost goof-proof and offers the less experienced modeller the chance to practice painting and constructional techniques without worrying if the kit will hang together. I enjoyed my first encounter with Accurate Miniatures and I look forward to their future releases. A super start for this exciting looking company.

However . . .

As good as these models are, I do have have one major reservation and that concerns the price. Accurate make great play in their publicity of the 'affordability' of their kits and while this may be true in the US, the UK retail price puts them a touch under £20 which makes them *more* expensive than equivalent Hasegawa, Tamiya and Fujimi products, surely the very companies Accurate had in their sights regarding 'affordability'? Whether this is the fault of the manufacturer, the importer/distributor or the fluctuation between the pound/dollar is hard to say – perhaps someone in the know would like to comment? As it is, I'm sure there are many modellers who would like to try their hand at one of these models but are discouraged by the price, which is a pity.

Desirable? Most certainly. Affordable? Relatively, but should they be *that* expensive?



Acknowledgments

Thanks go to Amalgam Modelmakers and MGS of Bristol for the scraps of Modelab.

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Warbirds Illustrated No 38 US Army Air Forces WWII, Vol. 1 (Jeffrey Ethell, Arms & Armour Press) *Replic* No.31

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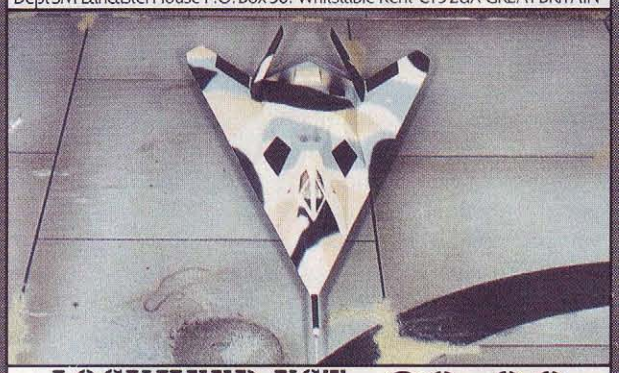

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SELF DEFENCE FOR MODELLERS !

Contrary to the impression I may sometimes give I am actually quite attached to my Dearly, and in fact I wouldn't change much about him. If he didn't model-make he might sit in the living room and generally clutter up the house. He might instead of spending his hard earned cash on kits, just spend all his free time down the pub, which I would find really aggravating, well, no, I wouldn't, I just wouldn't be here. Or worst of all he might subscribe to satellite television for the *FOOTBALL*, and wile away all his spare time glued to the box telling me how it was the best game ever invented, coming home from the club house of a Sunday morning, three sheets to the wind, with 12 filthy football strips which in a moment of drunken bravado he told his team mates you would wash because he doesn't put up with any of that feminist nonsense from his wife.

So I thought I had better redress the balance a little and give those of you who need it a short lesson in how to defend yourselves against the accusations modeller's families most frequently level against them. All of the above can be used as evidence of how reasonable your pastime is compared to that of some other men. Preferably you should have a brother-in-law or some such relative, against whom you will show in a good light, after all 'Uncle Fred spends as much money as this down the pub every night of the week's' is a far more reasoned and mature response to complaints about the cost of a kit than a sulky 'Well, its my money' as you storm out of the living room.

The Dearly's favourite method of defence on all counts is to cite the more extreme behaviour of others. When we are on my favourite topic, his stockpile of kits for a rainy day, he will invariably mention a friend who has about 4,000 such kits stacked all over his house. The Dearly has enough money tied up in those boxes to buy a car, put a deposit on a house, or pay the telephone bill 40 or 50 times over, I'm sure. (I should point out we are expecting the phone bill and he's threatening to get it itemised!!!? That could be the end of a beautiful relationship!) But to suggest he might thin out the population is totally unreasonable. OK, he might have several of the same kit but he wants to make them in different colours doesn't he. He'll have to live to be 200 and retire to make models full time when he is 40 if he is to stand a chance of building them all. You would think that working as a reviewer would keep him so busy he wouldn't need to buy kits (that's what I thought when I encouraged him to do it) but no; maybe he knows something the rest of us don't, perhaps there is about to be a world shortage of both plastic and resin, but he only has to see a shop with models in it to be reaching for his credit cards. Whoops, I did say that I was going to give you all a lesson in self defence but I seem to have wandered off at a tangent. I told you it was a sore point.

Model makers do have many good points, such as they always have the right adhesive for the job. Admittedly the Dearly has been known to take so long about doing any little repair job for me that I eventually end up slopping whatever it is together with multipurpose household stuff and then I have to listen to long lectures on how it should have been done, but there. They can paint in straight lines — very useful for skirting boards — and spending all your free time meticulously masking off and painting canopy frames means you can never do as so many other men do, which is claim ineptitude and tell the wife that they can't afford a professional decorator right now, hence the living room will have to stay citrus yellow for at least two more years.

My Dearly has some very useful equipment as well, so once in a while I launch a commando raid on his work bench, I have to be sneaky about borrowing them because if I ask first he just says 'No!' and then I have to wait the six months it takes him to get around to whatever I needed in the first place. Sadly this has led to the demise of at least one paintbrush which I was unable to sneak back into the solvent before it set hard and the 'Ruination' of the grip of a pair of long nosed tweezers which I used to repair some jewellery because I didn't have any long nosed pliers. I doubt that I shall ever be truly forgiven for either incident.

But finally, having given you this starting point from which I am sure you can all produce many more arguments for your defence, the absolute best thing about having a modeller sharing your life is that nothing you do seems nearly so strange in comparison. If I were to choose to spend my time making macrame seat covers any comments on their usefulness can be countered, 'and this from a man who spends all his spare time building mini-aircraft which can't even fly!' The defence rests.

The Royal Air Force Benevolent Fund's International Air Tattoo 95

THE 50TH ANNIVERSARY VICTORY AIRSHOW SPONSORED BY SAGA

'... The fate of generations lies in your hands' Winston Churchill, 1940

Air power dominated World War 2, for the first time playing the decisive role; had the Royal Air Force lost the Battle of Britain in the summer of 1940 enemy invasion would almost certainly have succeeded. Victory in Europe and the Pacific was to take another five years – and as the nation commemorates VE and VJ Day in 1945 the RAF joins forces with International Air Tattoo 95 to present a 50th Anniversary Victory Salute.

Glory on their Wings

Traditional 'missing man' formations will see the RAF uniting with aircraft from nations on both sides of the conflict – a powerful message of past losses and the present friendships. In the European theatre of war alone, the Royal Air Force lost 16,415 aircraft. The crowded cast of World War 2 classics gathering at IAT95, legendary names like Lancaster, Spitfire, Blenheim, Mosquito, Swordfish, Hurricane, Dakota, will symbolise the great flypast on 15th September 1945 when 20 squadrons took off from North Weald to fly in formation over London. This air armada was headed by 12 Spitfires flown by the surviving elite of 'The Few', led from the front by Group Captain Douglas Bader, President of International Air Tattoo from 1976 until his sudden death in 1983.

Another name to conjure up the 'glory days' is the Tiger Moth, and it flies again at IAT95 to represent each of the RAF Commands operational at the end of the war – ten including the Air Transport Auxiliary and the Royal Observer Corps.

As the Victory Airshow draws to a close, few will forget the lone Spitfire and Messerschmitt flying with the Red Arrows in a celebration of peace and reconciliation. Me Bf 109G-2 'Black 6', was manufactured by ERLA Maschinenwerk of Leipzig in October 1942. Its combat career in North Africa was short-lived. After suffering damage in November the same year, the aircraft was left grounded during the Battle of El Alamein – to be claimed by No.3 Squadron of the Royal Australian Air Force. Any plans to fly 'Black 6' off to Australia came to nothing when HQ Middle East Air Force ordered its immediate delivery for testing.

A TRIBUTE TO AVIATION - 75 YEARS OF AIRSHOWS

It is 75 years since the Royal Air Force staged its first Aerial Pageant at RAF Hendon to boost the coffers of its Benevolent Fund, the torch now carried by International Air Tattoo as the direct descendent of this history-making event. From an Avro 504K built in 1918, and winner of the 1937 Devon Air Race at 103 mph, to the sleek lines of today's front line jets, IAT95 is set to stage Hendon Heritage – a fascinating history of the airshow over 75 years. The Crunchies Team wingwalkers will bring back the vanished age of the great barnstormers. And, to come full circle the cream of the world's aerobatic pilots – teams like the Red Arrows, Patrouille de France, the Frecce Tricolori from the Italian Air Force, Spain's Team Aguila and Patrouille de Suisse (flying F-5s after the retirement of their Hunter aircraft in 1994) – will demonstrate the spectacular achievements of aviation since the Wright Brothers first cautious flight in 1903.

Bringing yet more colour and entertainment, IAT95 will also

celebrate the coming of age of the British Aerospace Hawk as the Red Arrows fly with other Hawk aircraft in a '21' formation over RAF Fairford, while Skytanker 95 will see the largest aviation Meet in recent times of these extraordinary 'flying fuel pumps'.

IAT95's Victory Airshow must surely be the aviation event of the year – over 350 participating aircraft from 50 of the world's air arms meeting in a spirit of friendship largely made possible by the momentous events of 50 years ago.

One of Life's Great Adventures

V for Victory, V for Velocity – and you can't get much faster than Concorde breaking the sound barrier at the magical Mach 1. Still 'jetting on famously' after 26 years in the starring role, Concorde will take centre stage at International Air Tattoo 95 as she carries passengers on two daily flights. Costing as little as £199 for the subsonic trips, full details can be obtained from Goodwood Travel, Concorde House, Stour Street, Canterbury, Kent CT1 2NZ. Telephone (01277) 763336. Fax (01277) 762417.

IAT 95 Tickets

Save £5.00 by buying tickets in advance from all branches of Alliance and Leicester Building Society or by ringing the Ticket Hotline on 0891 122 997. Adult advance tickets £15.00 (£20.00 on the day) and accompanied children (5-15) are free, the cheapest IAT family package since 1992.

The IAT 95 Information Hotline

Telephone 0891 122 999 for details on how to book grandstand seats (£10.00), IAT95 Concorde flights (from £199) or a place in the VIP Aviation Club (£68.50).

Calls on the Information and Ticket Hotlines are charged at 39p per minute cheap rate and 49p per minute at all other times, 10p of which is donated to Royal Air Force Benevolent Fund Enterprises, PO Box 1940, Fairford, Glos GL7 4NA

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Latin Legends

A Brief History of the Regia Aeronautica 1918-1939

by Barry Ketley

Military aviation in Italy has a long history, indeed, the first operational use of aircraft ever recorded was by one of three Blériot monoplanes during an expedition in Libya (then a battleground between Italy and the declining power of Turkey) on 21 October 1911. Ominously, on 31 January 1912, also in Libya, Capitano Montù gained the unenviable distinction of being the first aviator to be wounded in action when he was struck by a bullet fired from the ground.

During World War I, Italian aviation, like that of the other combatant nations, grew from a tiny nucleus of committed men and expanded rapidly. As in most other countries, the Italian military saw aircraft primarily as reconnaissance vehicles, and a Government decree in October 1914 emphasised this task. On 7 January 1915, the Corpo Aeronautico Militare was officially formed, comprising two sections, one for airships and the other for both army and naval aircraft.

Despite their early appreciation of the possibilities of air power, when Italy declared war on the Central Powers on 23 May, 1915, most of the 58 army aircraft were of French origin and obsolescent. To fly them there were 91 pilots, 20 observers and some 200 trainee pilots at five schools. The naval aviation service boasted 19 assorted marine aircraft, while the pilot training school at Taranto had 15 elderly Curtiss types and 50 students.

Although outnumbered almost two to one by their Austro-Hungarian opponents, the Italian airmen were well trained and capable. Several, amongst them the fighter pilot Francesco Baracca and the reconnaissance pilot-poet Gabriele D'Annunzio, were to achieve world-wide fame. However, in a situation which seemed to bedevil the Italian air forces until the end of World War II, the essential engineering infrastructure was totally inadequate. At the beginning of 1915 the Italian aviation industry had only 100 skilled workers – the machinery and raw materials to create the means by which the airmen were to fight were all in short supply, and the entire industry was only capable of producing 6-10 aircraft in a year! Yet, although the Italian aircraft industry and air force may have been fragmented and disorganised, there was a clarity of thought regarding the purpose of air power which was considerably in advance of other nations. For instance, in 1915, Italy was the only country to possess an aircraft designed specifically as a bomber – namely the three-engined Caproni Ca 1. This aircraft had been built in response to the requirements of the commander of the aviation battalion, Giulio Douhet, whose theories (first put forward in 1905) concerning the potential of strategic bombing were to have enormous influence on military and political circles throughout the inter-war years.

By the time of the Armistice on the Southwest Front on 4 November 1918, Italian airmen had achieved virtually complete air superiority over their Austro-Hungarian opponents over both land and sea. On 4 November 1918, the Italian army air service possessed 504 frontline aircraft – an almost ten-fold increase since May 1915. Over 200 of these were fighters and reconnaissance machines, while there were over 50 Caproni heavy bombers. As for naval aviation, there were almost 600 seaplanes and 500 pilots, based at 36 stations.

In keeping with the original doctrines for the Corpo Aeronautico, by the end of the war the Italian aircraft industry had succeeded in producing some superb heavy bombers – various models of Caproni biplanes and triplanes. It also produced arguably the finest reconnaissance aircraft of World War I, the Ansaldo SVA, (even if by default), yet failed dismally to design a good fighter or outstanding light bomber. As a result, throughout the war the land-based Italian fighter squadrons had been forced to rely upon various licence-built French designs, mostly a variety of Nieuport sesquiplanes or the under-rated Hanriot HD 1. Naval fliers had managed well enough with French designed FBA and Macchi-built copies of Austrian Lohner flying boats.

To a large extent, the success of Italian aviation at the front had been due to the organisational ability of the General Commissariat, the ultimate form of government department responsible for all aspects of aviation apart from operations. This had been led by Guilio Douhet throughout most of 1918 until he retired from the services in order to write. In 1918 alone, the industry had managed to produce 6,488 aircraft, including 1,183 SVA types, 1,073 Pomilio bomber and reconnaissance machines and 577 FBA flying boats. The great success story had been in the engine field where the three most important companies, Fiat, Isotta-Fraschini and Ansaldo had each developed a range of excellent engines which were greatly sought after by the other Allied nations. By the end of 1918 Fiat alone was producing 1,000 to 1,200 engines monthly.

The end of the war led inevitably to a rapid contraction of the Italian air forces and aviation in Italy virtually stagnated, although some thought was given to the composition of the post-war air forces.
In October 1919, the HQ assessed its necessary peacetime establishment as:

No of Squadrons

21	Fighter
4	Strategic reconnaissance
7	Tactical reconnaissance
3	Heavy bomber

For Italy the peace dividend consisted of soaring inflation, enormous taxes to recoup the costs of the war, widespread unemployment and poverty and political turbulence. Then, in 1921, two events coincided that were to have a major influence upon the future development of the Italian air force. One was the publication of Giulio Douhet's gloomy doctrine of the supremacy of airpower, stressing in particular the importance of the bomber, titled 'Command of the Air'. The other was the election to the House of Deputies of the young leader of an extreme right-wing political party known as Fascists. (Based upon the ancient Roman emblem of supreme power, the axe bundled with rods known as fasces, which was adopted by the new party). That man was Benito Mussolini.

In 1922 Italy was still a monarchy under King Victor Emmanuel III, but in that year Mussolini assumed absolute power and the title Il Duce. An enthusiastic amateur aviator, Mussolini embraced Douhet's doctrine wholeheartedly, seeing within it the means to create military grandeur for his

HANRIOT HDI 626 Flown by the commander of the 71st Fighter Squadron (note early ranking insignis on fuselage) 9XXIII Gruppo) based at Sesto San Giovanni circa 1923. Source : photographs - "L'aviazione' da Caccia Italiana 1918-1939" Vol 1 page 14, vol II, pages 105/106

Complete set of Drawings from " W.W.I Aero " based on Macchi originals

impoverished, essentially agrarian nation. Consequently, in March 1923 the Regia Aeronautica – Royal Air Force – came into existence. Along with the RAF, this was the world's only other independent air force. Led by Italo Balbo, one four men who seized power with Mussolini in 1922, Italian aviation soon came to reflect the restless search for prestige and glamour of the Fascist leadership.

The 1920's was a period of intense aeronautical development, spurred on by nationalism and various newspaper proprietors and industrialists who promoted contests intended to develop both the engineering and performance of the aerial machine. Foremost amongst these competitions were the Coupe Deutsch and the famous Schneider Trophy for seaplanes. These competitions and innumerable pioneering long distance flights (known as raids to the Italians) served to keep aviation firmly in the public eye, ideal conditions for promoting Mussolini's Italy. As a result, the Italians were foremost amongst the competitors for the Schneider Trophy. The superb Savoia and Macchi flying boats and floatplanes designed for these races gave full rein to the creativity of Italian designers such as Alessandro Marchetti of Savoia, the secretive Mario Castoldi of Macchi and the genial Celestino Rosatelli of Fiat. All of these men were to have a major impact upon the equipment of the Regia Aeronautica well into the Second World War.

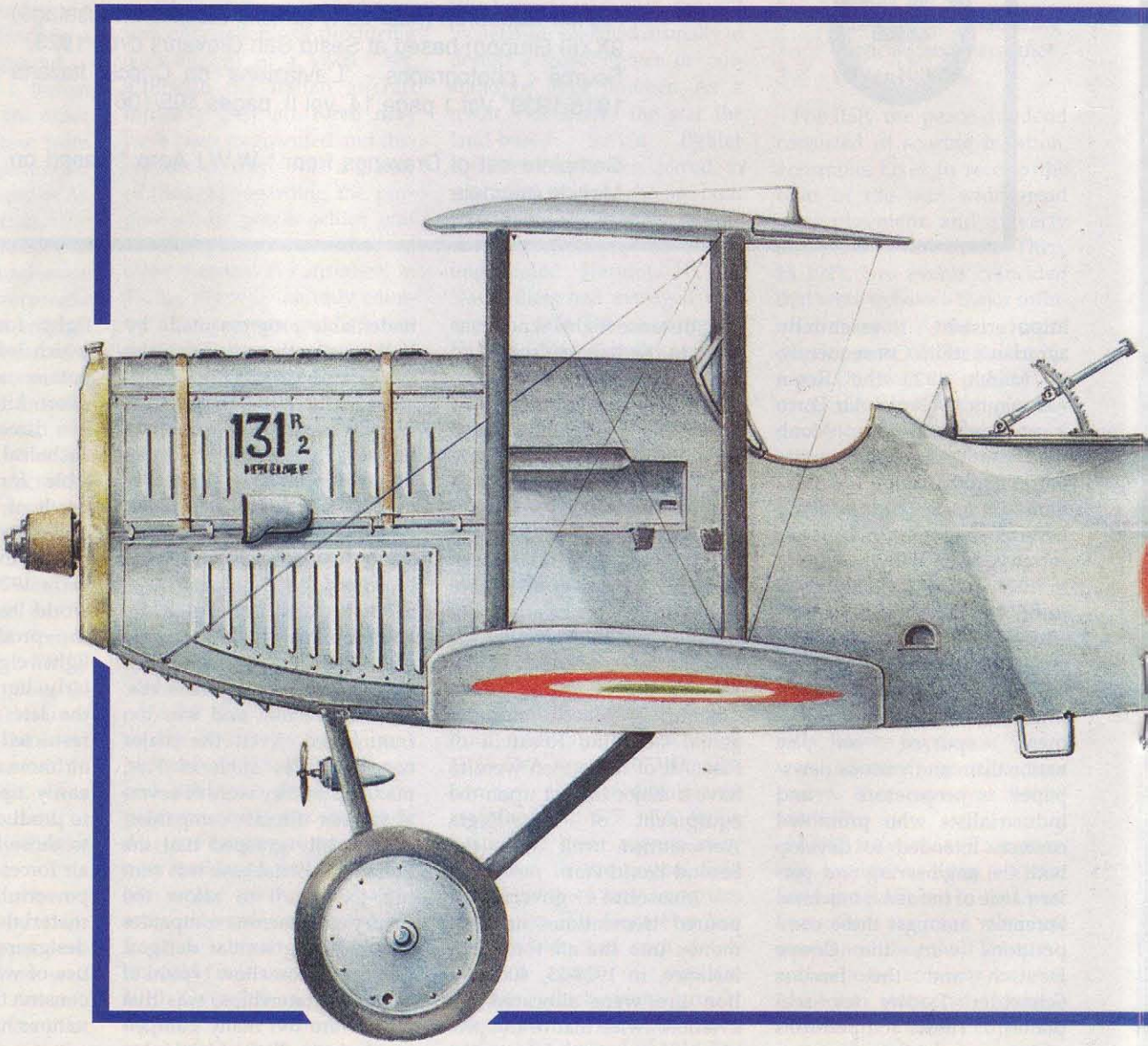
Mussolini's government poured tremendous sums of money into the air force. For instance, in 1924-25, 400 million lire were allocated for aviation, twice that of the previous year. Yet, despite the undeniable progress made by Italian aviation during the 1920's and '30's, little of this effort really served to make the Regia Aeronautica a genuinely effective fighting force. Despite numerous impressive achievements, such as the mass crossing of the Atlantic in 1933 by twenty-four Savoia-Marchetti SM.55X flying boats led by Marshall Italo Balbo, the aircraft industry, and in particular the engine industry, always lacked raw materials, central direction and was too fragmented. Even the major conglomerates such as Fiat, made up as they were of several smaller aircraft companies, never really grasped that the Italian industrial base was simply too small to allow the luxury of numerous companies all producing similar designs. The result, somehow typical of Fascist dictatorships, was that there were too many competing designs, all of which had to fight for scarce resources, which led to a wasteful dissipation and duplication of effort. Linked to a certain lack of direction amongst the Technical Departments responsible for procurement, one result of this was the chronic failure of the Italian aircraft engine industry, which in the early 1920's was amongst the world leaders, yet was unable to produce high-powered lightweight engines, particularly liquid-cooled types, by the late 1930's. This in turn restricted the freedom of the airframe designers, themselves easily up to world standards, to produce aircraft comparable to those in service with other air forces. In particular, lack of powerful engines and suitable materials meant that Italian designers were forced to make use of wood and tubular steel construction long after other nations had moved to all-metal monocoque structures.

Throughout the 1920's the Regia Aeronautica was preoccupied with developing new equipment and tactics, most 'operational' flying being in a policing role in the Italian African colonies. Some idea of the operational priorities can be gained from the fact that in 1925 there were 23 reconnaissance squadrons and only 22 fighter squadrons.

Faced with the necessity of protecting Italy's enormous coastline and merchant shipping, it was logical that the Italian navy, especially with the experience of World War I still fresh, should feel the need for a naval aviation arm. This was confirmed in spring 1925 with the formation of the L'Aviazione Ausiliaria per la Regia Marina – the Royal Naval Auxiliary Air Force – tasked with protecting merchant shipping sea lanes and coastal seaboards. This was intended to be made up of some 35 squadrons of aircraft and a half-dozen airships. The decision quickly became the subject of much criticism by influential aviation theorists, amongst them Douhet and Balbo, who probably saw the naval air arm as a threat to their own aeronautical empires or theories. In the days before radar, there could be no denying a need for ship-borne aircraft for observation duties, yet in the face of intense criticism the navy remained strangely quiet. Like in many other navies of the time and despite convincing demonstrations of naval aviation striking power during World War I, perhaps there was only a half-hearted acceptance of the concept. Even so, by the end of 1926, there were 11 shore-based squadrons equipped with over 300 single-engined biplane flying boats of numerous types. In addition there were 44 aircraft aboard ships. Over the next few years, despite the numbers of aircraft involved, the status of Italian naval aviation seems to have been ambivalent. Many different prototypes were tried out, mostly unsuccessfully. Some thought was even given to helicopters, yet the vessel which could have made a significant impact in the Mediterranean, namely the aircraft carrier, received only desultory attention and the Aviazione Ausiliaria was destined to remain virtually ineffective until the end of World War II.

However, all that was in the future. Desperate to establish Italian prestige in the eyes of the world, particularly military prestige, Mussolini embarked upon an adventure in Africa, namely the invasion of Abyssinia (now Ethiopia) in October 1935. The last possible colony in the whole of Africa, Mussolini was determined that it should be his. Launched against an enemy almost totally lacking in aircraft, the invasion was something of a parade for the Regia Aeronautica, which gained international notoriety by their use of poison gas and bombs against the native population. The greatest danger was becoming lost over the arid wastes of Abyssinia, or worse, having to force land amongst the locals.

By May 1936 the country was in Italian hands. Fascist propaganda had made much of Italian military might, and may have had some influence upon the ineffective response by the other European nations. In any case, their views and that of the



international community at large, had little impact upon Mussolini, who chose to regard the Abyssinian venture as a great military victory.

When the Spanish Civil War broke out in July 1936, the Regia Aeronautica was perceived to be a formidable force, growing stronger by the year. In fact it was at the zenith, and the Spanish Civil War was to be a contributory factor to the start of a decline. Nine Savoia-Marchetti S.M. 81 bombers arrived in Spain on the last day of the month to assist the Nationalist cause, seen by Mussolini as an ideal opportunity to add further glories to Italian prestige. By the end of September, 56 assorted Italian aircraft had reached Spain. In December the Aviazione Legionaria – the grandiosely named Air Legion – was formed under the command of Colonel Vicenzo Velardo. In the following three years much was made of the heroic achievements of the Italian airmen, although largely overshadowed by the German Legion Condor.

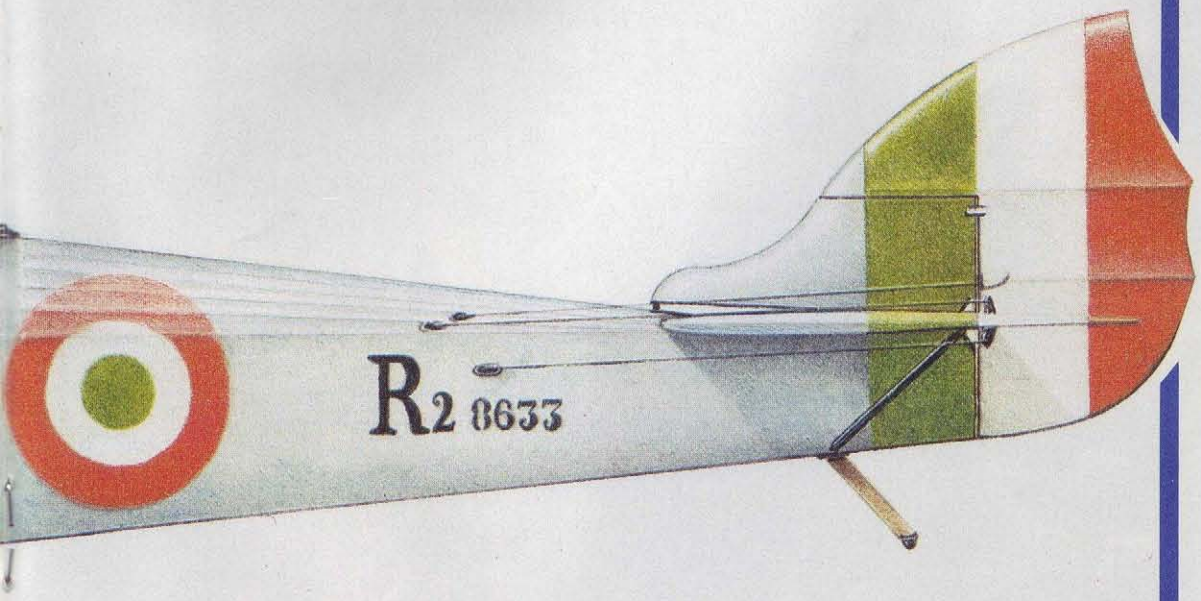
Like the Germans, the Italian air contingent regarded Spain as a kind of proving ground. However, the lack of a first rate opposition led the Regia Aeronautica to the erroneous belief that there was still a place for the biplane fighter in front-line service, long after other nations had gone over to the monoplane. Although the Fiat CR 32 fighter biplane had acquitted itself quite well, there had been too little time to properly evaluate the monoplane Fiat G.50 prototypes sent there, with the result that the Italian air force began World War II with large numbers of indifferent fighters, mostly under-armed and under-powered biplanes, little different to those with which the Italians had finished World War I.

Italian bombers on the other hand, were on a par with other nations of the time, although suffering the same handicaps of being short on defensive armament and adequate flight aids.

The cost of about 34 fighter pilots killed (other losses are not known) was relatively light, but the hidden effect upon the reserves of machines would cost the Regia Aeronautica dearly. Apart from the financial costs (in 1939 a Fiat CR.32 quater cost 427,000 lire, while a Caproni Ca 310 cost 650,000) the loss of large numbers of aircraft placed considerable strain on the capabilities of the air force and industry. Out of some 765 Italian aircraft of all types sent to Spain, it is believed that almost 150 fighters and 144 other types were lost.

No sooner had the Spanish Civil War finished than Mussolini's lust for glory led him into another expansionist adventure. This time he had decided to occupy the inoffensive Balkan state of Albania. On Good Friday 1939, the Regia Aeronautica dropped leaflets over Tirana. On 16 April King Victor Emmanuel of Italy became King of Albania. These unopposed actions did little to either test the Regia Aeronautica or offer experience for the future. What they did do was to lull the Italian armed forces, or at least their leader, into a misplaced idea of their own invincibility. In 1940 the true state of affairs was to become shockingly evident....

© Barry Ketley

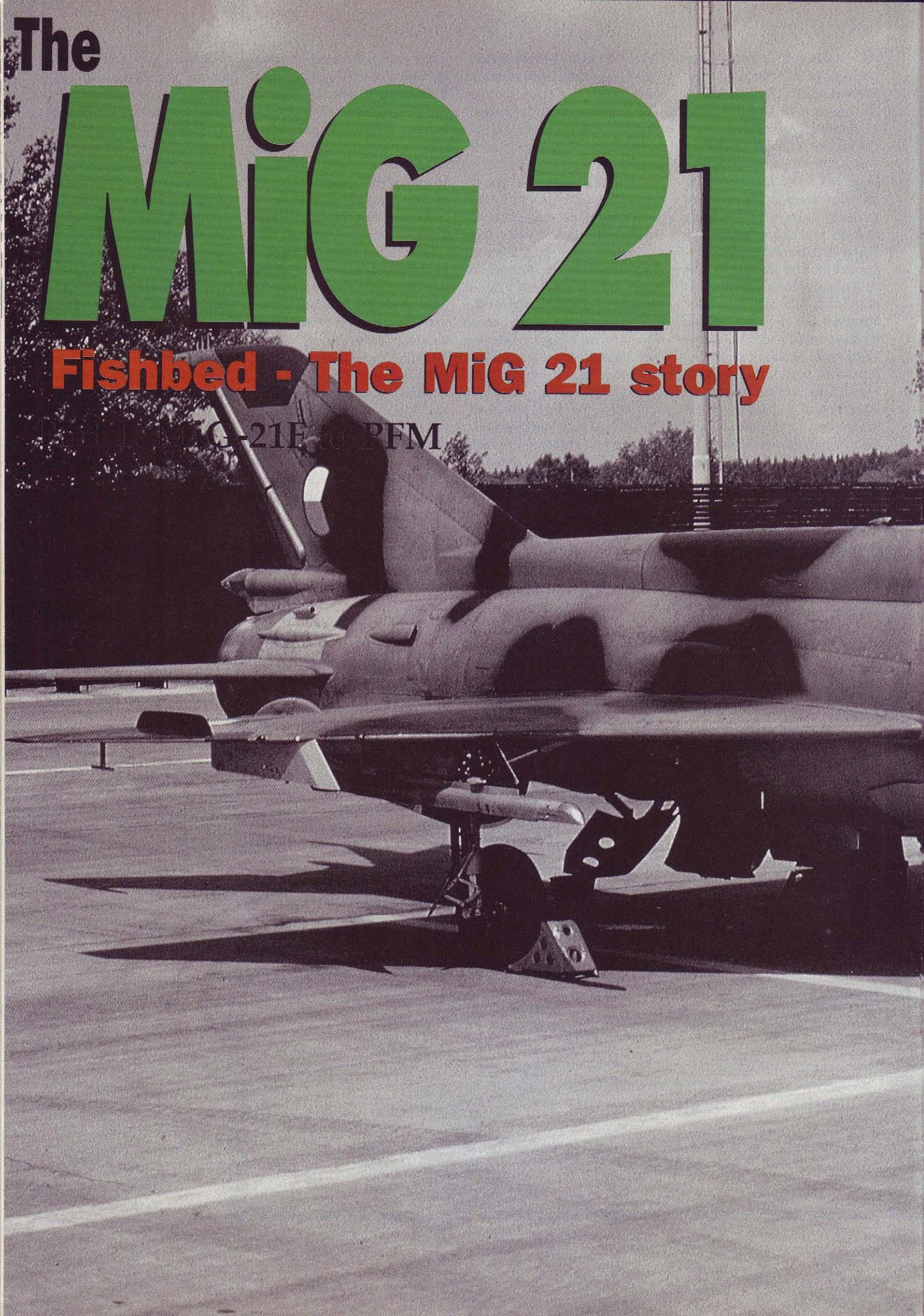


Fiat's first design, the Siarz No. 8633 of the 131st Reconnaisance Squadron (note : designation on forward fuselage) based at Capodichino in the 1922-25 period .

Source photograph - "Aerofan" 1/81, page 3, drawing from " Origin of Aviation in Italy" / Piero Vergano.

The MiG 21

Fishbed - The MiG 21 story



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Conceived in the early post-war climate and destined to be a backbone of the Soviet bloc and her satellites throughout the sixties, the MiG-21 has proved, like its Western contemporary the Lockheed Starfighter, to be a real winner. Even today, many nations rely on the MiG-21 and although it has been retired by most major operators, it will continue in use with others past the turn of the century, albeit it in markedly different roles to those envisaged for it forty years ago.

The MiG-21 came to Western attention at its public debut (in experimental form) at the 1956 Aviation Day held at Tushino airport, Moscow. Observers from North America and Europe were unable to glean much information from this literally 'flying' visitation and the succeeding years didn't shed much more light on the subject. This confusion was to continue into the mid-1960s, by which time the MiG-21 had been about for some 10 years! Indeed, it was the supply of MiG-21Fs to the Finnish Ilmavoimet in 1963 that eventually provided the information Western analysts were looking for.

The MiG-21 was the Soviet response to a perceived requirement for a fighter capable of Mach 2 to take on the American century fighters then under development. The task of finding this new shape in the sky was passed to the Mikoyan-Guervich bureau and work began in 1952. Many configurations were considered before the final design was settled – two wing shapes (swept and delta) were tested before the delta layout was chosen.

The first true MiG-21s entered service in 1959 after a protracted development programme involving the Ye-2, Ye-4, Ye-5 and Ye-6 series of experimental prototypes. The first version of the large and – to Western observers at least – confusing family into service was the MiG-21F (*forsirovanni* = boosted) – leading the way for an eventual 6,000-plus Soviet Frontal Aviation MiG-21s of all models.

MiG-21F production eventually reached about 2,000, more than half of which were 'sold' by the Russians to overseas air arms. Those receiving them included most of the East European communist countries. Others to use the MiG-21F, like the Indian Air Force, employed them as interim advanced trainers pending the arrival of better, more useful, machinery.

Although the Soviets were happy with the basic MiG-21, they wanted something better. MiG's OKB (experimental bureau) continued to refine the design. The Ye-6, which had been proposed in 1956, was given the go-ahead the following year and offered the pilot something extra – radar. This was housed in a redesigned nose profile, achieved simply by enlarging the diameter of the nose inlet – the simple solutions are often the best. In a situation to be repeated 20 years later with the air-defence version of the Panavia Tornado, the Sapphire radar system was not ready in time for the first flight and ballast was used instead. Other

improvements over the MiG-21F included blown flaps.

The improved MiG-21PF began to reach Frontal Aviation's front-line regiments in 1963. At about the same time the Indian Air Force received its second generation machines, designated the MiG-21FL. Questions were raised regarding the limited armament capability of the aircraft, and work was also set in hand to improve the undercarriage, where burst tyres and poor brakes were responsible for many landing accidents.

The Indians had signed their agreement to purchase MiG-21Fs in August 1962, much to the surprise of the West, for up to this time the Indian Air Force had been based on British aircraft. Many of the Indian MiGs were mainly licence-built by Hindustani Aeronautics at Nasik with licence-produced F2S engines from a newly built factory at Koraput, which handed over its first engine in 1969. Production of the first airframe components began in 1965 and the first aircraft was ready for hand-over the following November. Avionics for the Indian aircraft were also licence-produced, this time from a factory at Balanagar, where the K-13 family of air-to-air missiles, standard on all MiG-21s, were also built.

India's first MiG-21s had been in service from April 1964 with four MiG-21Fs, accompanied by four MiG-21PFs. These were due to be joined by a further batch of 18 MiG-21PFs in 1965, after which knock-down kits would be provided for local assembly, but the war with Pakistan intervened and although the Indians had eight MiGs on

CAP patrols, they did not meet any Pakistani F-104A Starfighter adversaries.

War between India and Pakistan finally erupted again in December 1971, by which time the Indians could claim eight operational squadrons – Nos 1, 34, 8, 28, 29, 30, 45 and 47. Five were used on air defence on India's western border with Pakistan while the other three waited for action on the other side of the country. The result of this situation was the hurried toning down of the MiGs' silver camouflage with brown and green camouflage.

During the 1960s the MiG-21 was no stranger to combat. The North Vietnamese People's Army Air Force used Fishbeds alongside its earlier-vintage MiG-17s, where they came off surprisingly well against the Phantoms of the United States Air Force.

In the Middle East, however, the story was not so rosy. The Six Day War of 6th-10th June 1967 saw the MiG-21, flown by the united Arab forces, come off worse against a dedicated Israeli pre-emptive strike that left 300 arab aircraft destroyed for the loss of 19 Israeli aircraft. Things were different by the Yom Kippur War in 1973 when the Arabs had the advantage of surprise, and although the Arabs could be said to have come off worse, the MiG-21 acquitted itself well.

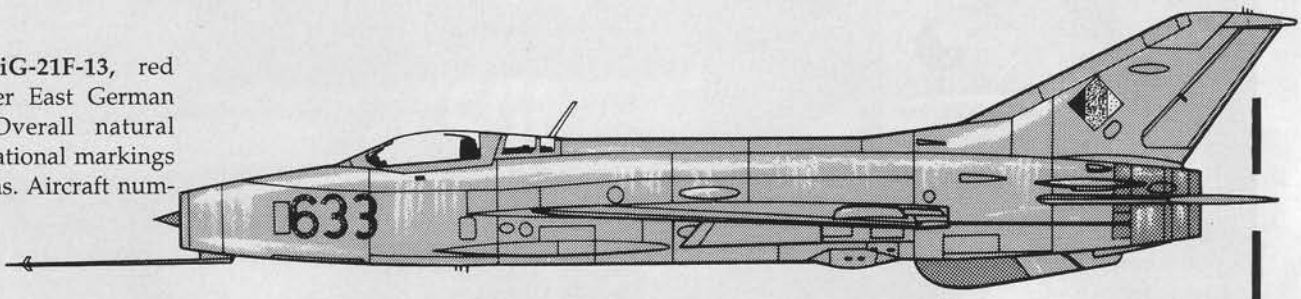
Other MiG-21s in war zones have included conflicts in Angola, Ethiopia and Somalia, as well as the 'local' disagreement between Egypt and Libya in 1977.

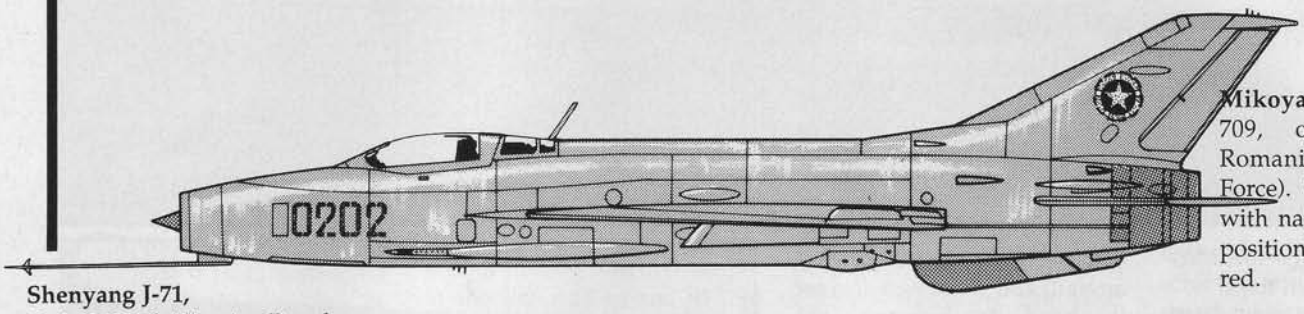
One final operator of the early MiG-21 which cannot be discounted is the United States Air Force, which 'acquired' at least one MiG-21F-13 for evaluation at Nellis AFB, Nevada. Defecting pilots have their uses!

The MiG-21 story will be continued in a future issue of Scale Aviation Modeller.

BLACK WHITE NATURAL METAL GREEN DARK METAL RED BLUE

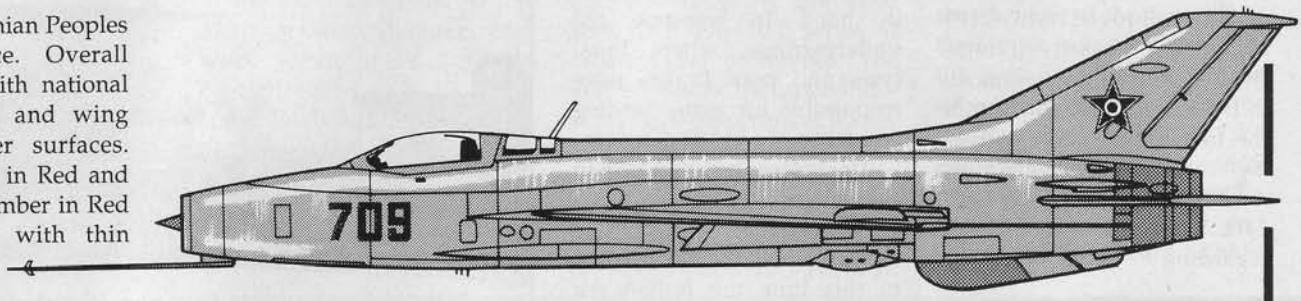
Mikoyan MiG-21F-13, red 633, of former East German Air Force. Overall natural metal, with national markings in six positions. Aircraft number in red.





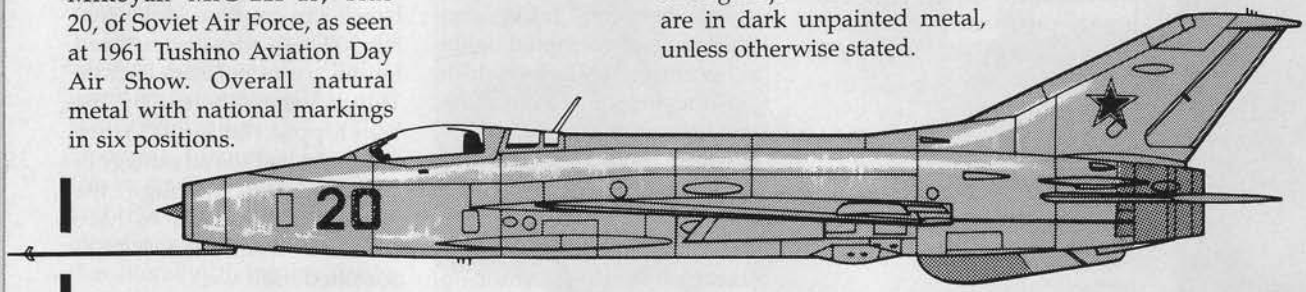
Mikoyan MiG-21F-13, red 709, of Fortele Aeriene Romania (Romanian Air Force). Overall natural metal with national markings in six positions. Aircraft number in red.

Shenyang J-71,
Red 0202, of Albanian Peoples Army Air Force. Overall Natural Metal, with national markings on fin and wing upper and lower surfaces. National marking in Red and Black. Aircraft number in Red stencil lettering, with thin White outline.

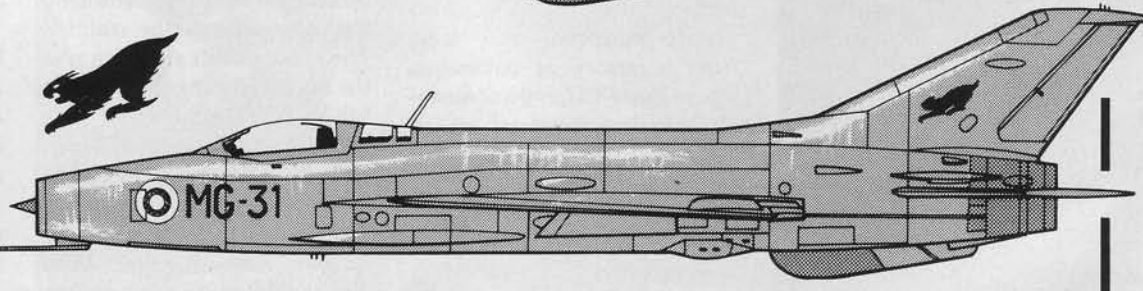


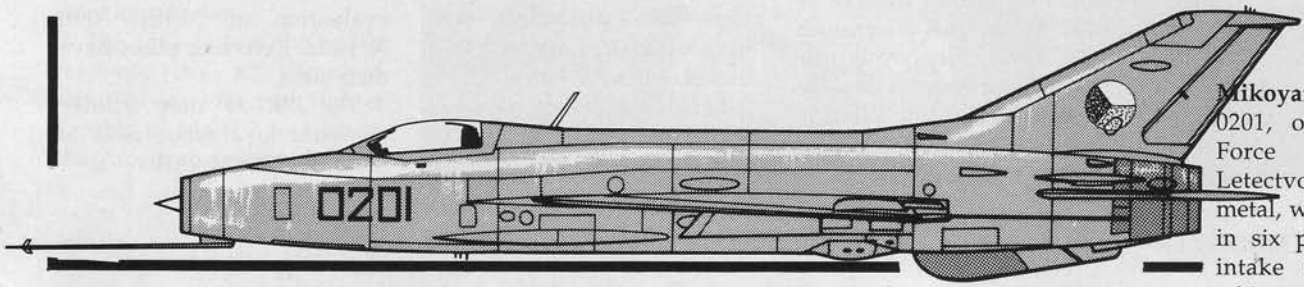
NOTE: On all profiles dilectric panels are painted green and all engine jet nozzle surrounds are in dark unpainted metal, unless otherwise stated.

Mikoyan MiG-21F-13, blue 20, of Soviet Air Force, as seen at 1961 Tushino Aviation Day Air Show. Overall natural metal with national markings in six positions.

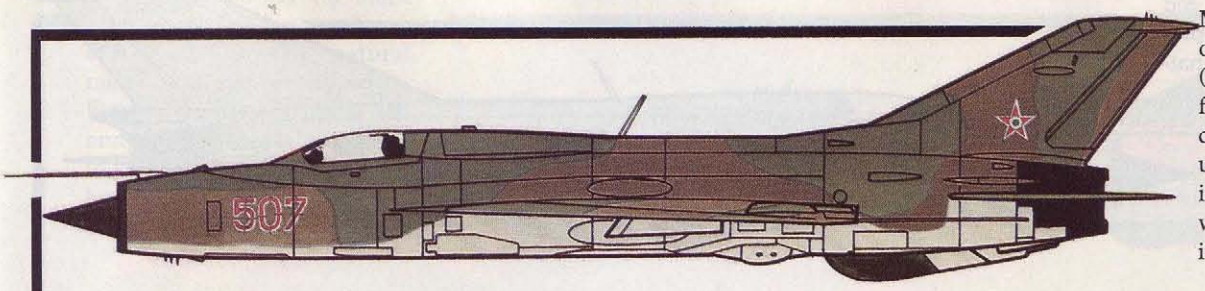


Mikoyan MiG-21F-13, MG-31 of 31st Fighter Squadron, Finnish Air Force (Suomen Ilmaviomat). Overall natural metal, with national markings in six positions. Aircraft number in black. 'Lynx' insignia (see enlargement) in black.



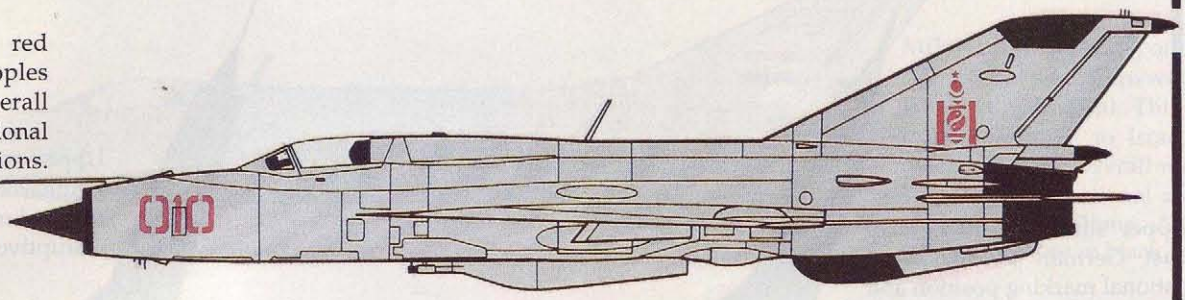


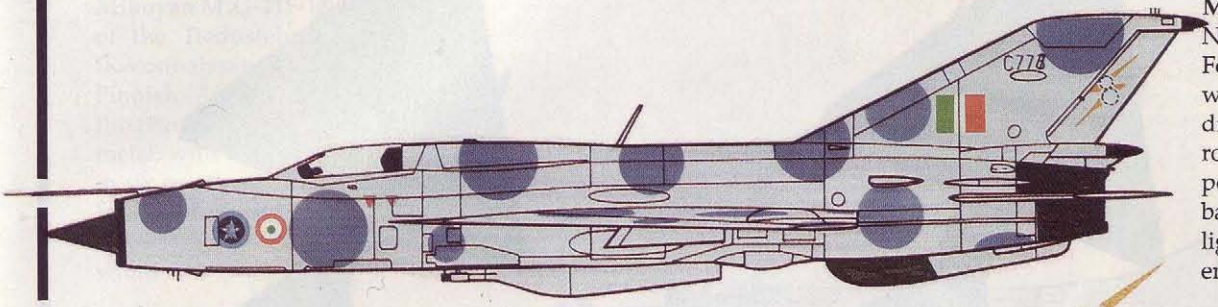
Mikoyan MiG-21F-13, black 0201, of Czechoslovak Air Force (Ceskoslovenske Letectvo). Overall natural metal, with national markings in six positions. Note shock intake cone is painted in white.



Mikoyan MiG-21PF, red 507 of Hungarian Air Force (Magyar Legiero). Upper surfaces in green/tan disruptive camouflage, with light grey undersides. Aircraft number in red stencil lettering with white outline. National markings in six positions.

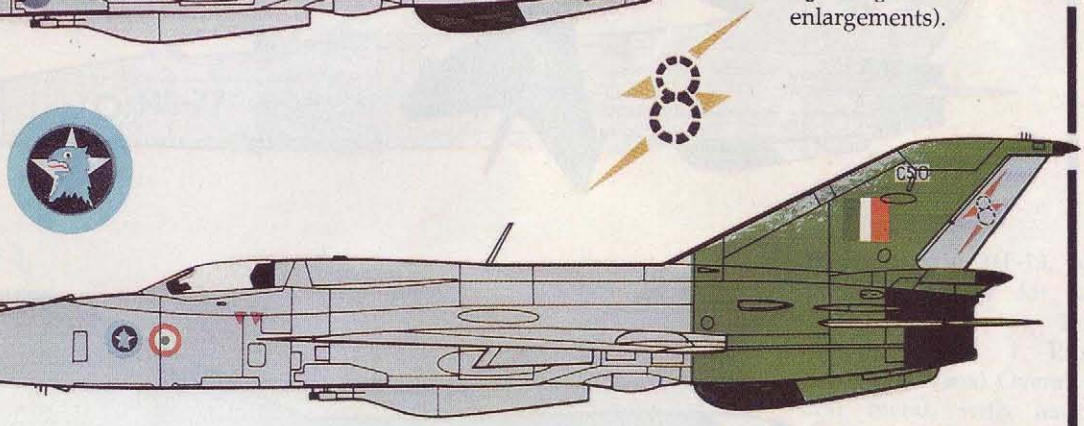
Mikoyan MiG-21PFM, red 010, of Mongolian Peoples Republic Air Force. Overall natural metal, with national markings in six positions. Aircraft number in red.

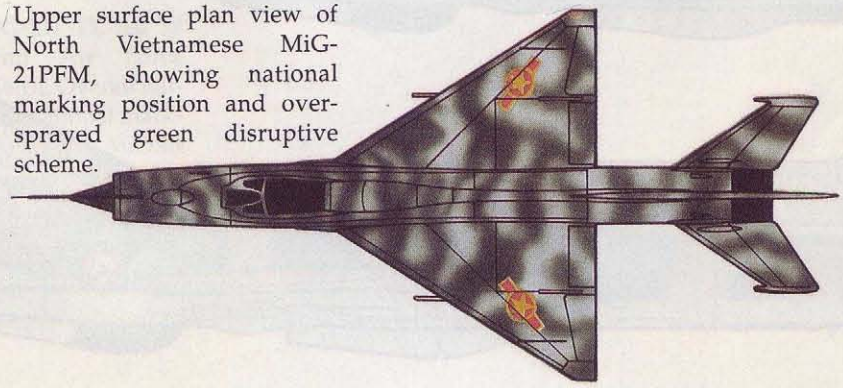




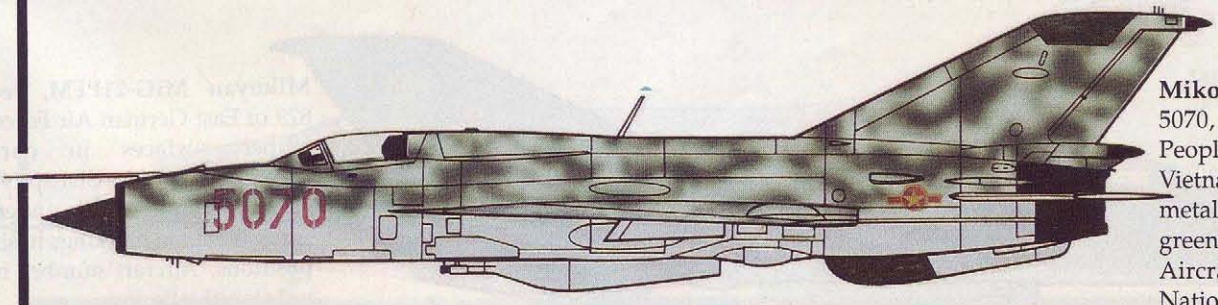
Mikoyan MiG-21FL, C773 of No.8 Squadron, Indian Air Force. Overall natural metal, with overpainted blue spots of differing sizes, for use in ACT role. National markings in six positions. No.8 Squadron badge on nose and '8' with lightning flash on rudder (see enlargements).

Mikoyan MiG-21FL, C510 of No.8 Squadron, Indian Air Force. overall natural metal with green painted rear fuselage fin and tail unit. Rudder in natural metal with superimposed '8' and lightning flash. No.8 Squadron insignia on nose.



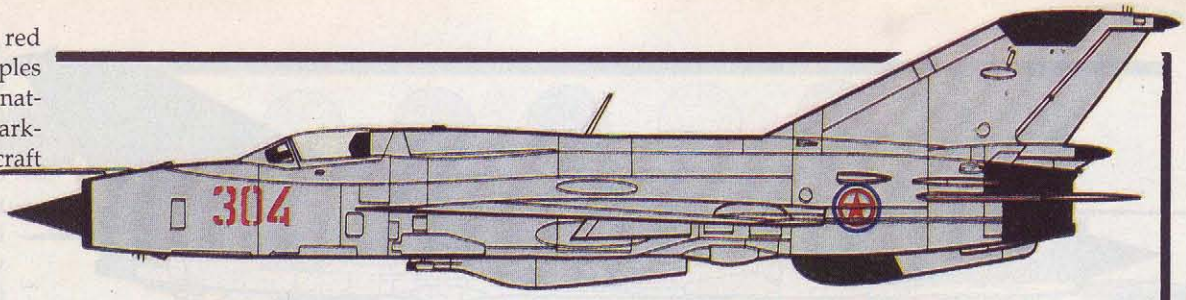


Upper surface plan view of North Vietnamese MiG-21PFM, showing national marking position and oversprayed green disruptive scheme.



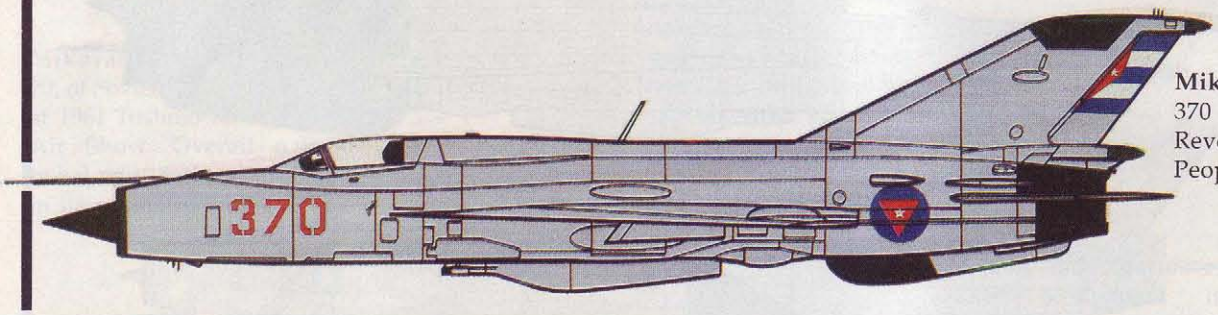
Mikoyan MiG-21PFM, red 5070, of North Vietnamese Peoples Air Force, during the Vietnam War. Overall natural metal, with overspray of dark green to all upper surfaces. Aircraft number in red. National markings in six positions.

Mikoyan MiG-21PFM, red 304 of North Korean Peoples Army Air Force. Overall natural metal with national markings in six positions. Aircraft number in red.



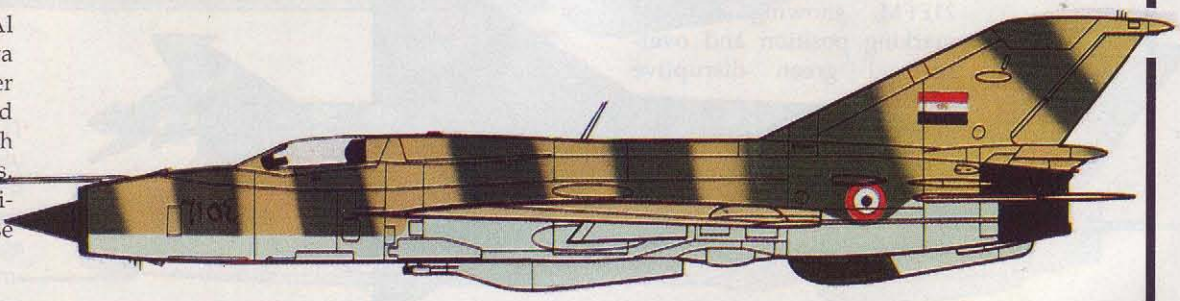
Upper surface plan view of East German PFM showing national marking position and disruptive camouflage scheme.

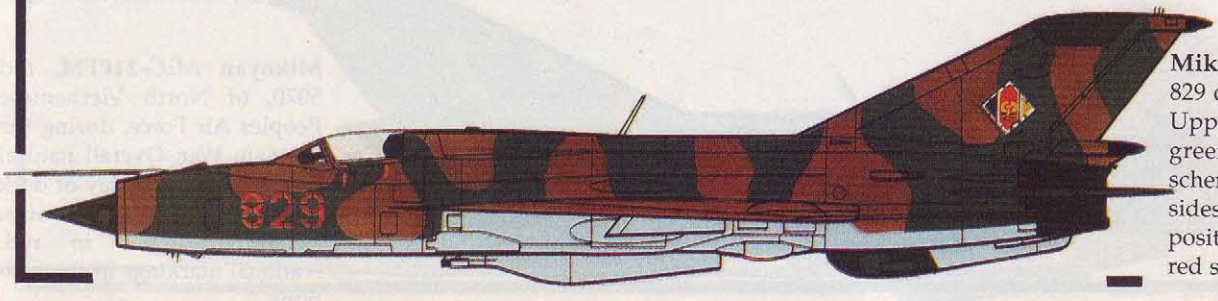
Upper surface plan view of Hungarian PF showing national marking position and disruptive scheme.



Mikoyan MiG-21PFM, red 370 of Fuerza Aerea Revolucionaria (Cuban Peoples Air Force). Overall

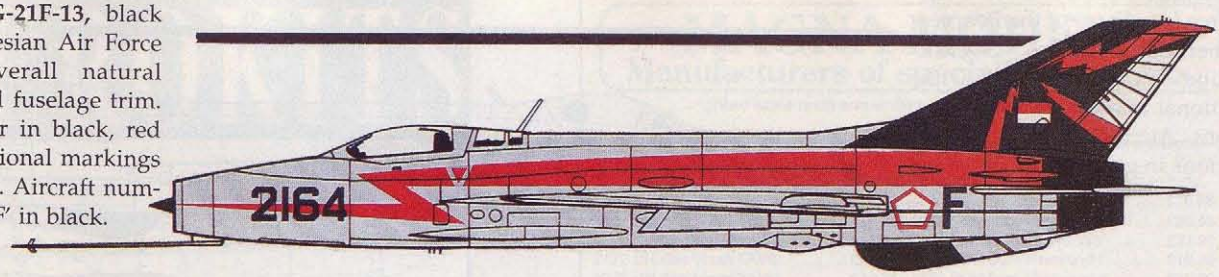
Mikoyan MiG-21PF of Al Quwwat al Jawwiya il Misriya (Egyptian Air Force). Upper surfaces in dark green/sand brown disruptive scheme with light blue undersides. National markings in six positions. Arabic number on nose in black.

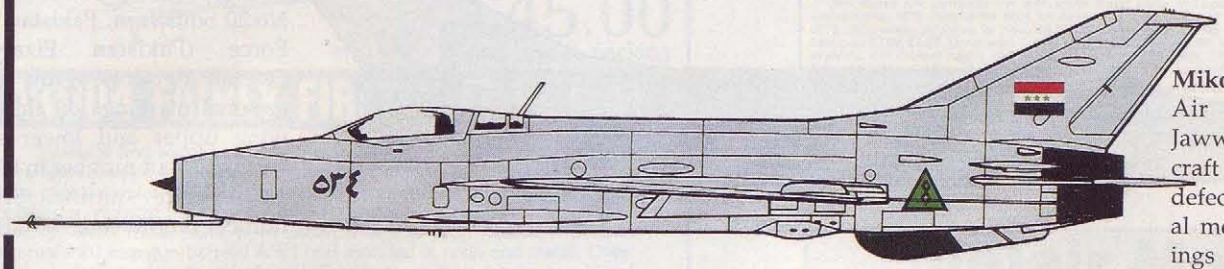




Mikoyan MiG-21PFM, red 829 of East German Air Force. Upper surfaces in dark green/brown disruptive scheme, with light blue undersides. National markings in six positions. Aircraft number in red stencil lettering.

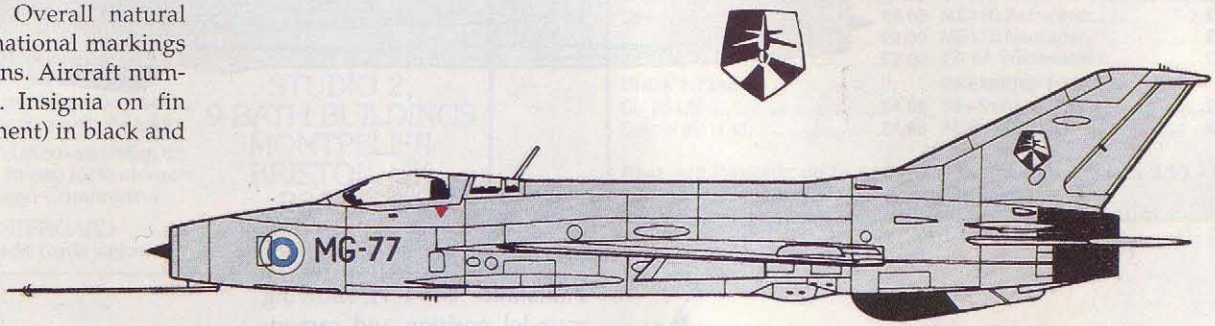
Mikoyan MiG-21F-13, black 2164 of Indonesian Air Force (TNI-AU). Overall natural metal, with red fuselage trim. Fin and rudder in black, red and white. National markings in six positions. Aircraft number and letter 'F' in black.

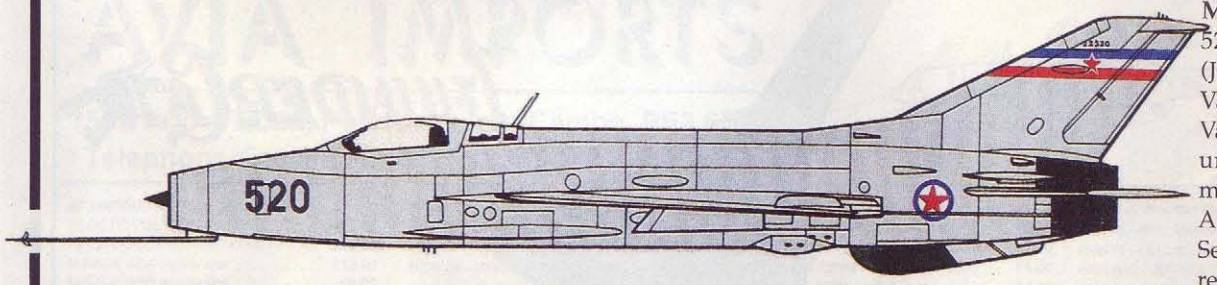




Mikoyan MiG-21F-13, of Iraqi Air Force (Al Quwwat al Jawwiya al Iraqiya). This aircraft was flown to Israel by defecting pilot. Overall natural metal, with national markings in six positions. Arabic number on nose in black.

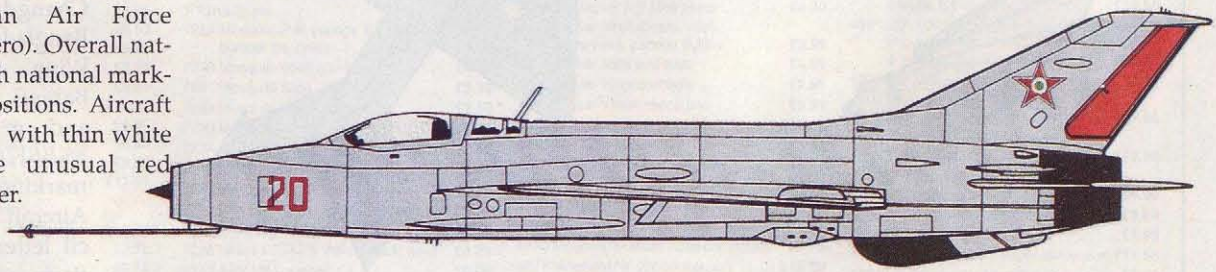
Mikoyan MiG-21F-13, MG-77, of the Tiedustelulentolaivue (Reconnaissance Squadron), Finnish Air Force (Suomen Ilmaviomet). Overall natural metal, with national markings in six positions. Aircraft number in black. Insignia on fin (see enlargement) in black and white.

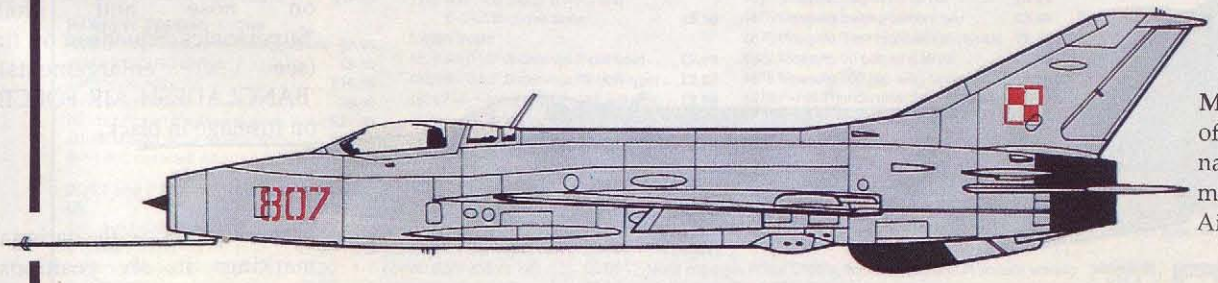




Mikoyan MiG-21F-13, black 520 of Yugoslav Air Force (Jugoslovensko Ratno Vazduhoplovsto i Protiv-Vazduna Obrana). Overall natural metal, with national markings in six positions. Aircraft number in black. Serial number above fin flash reads '22520'.

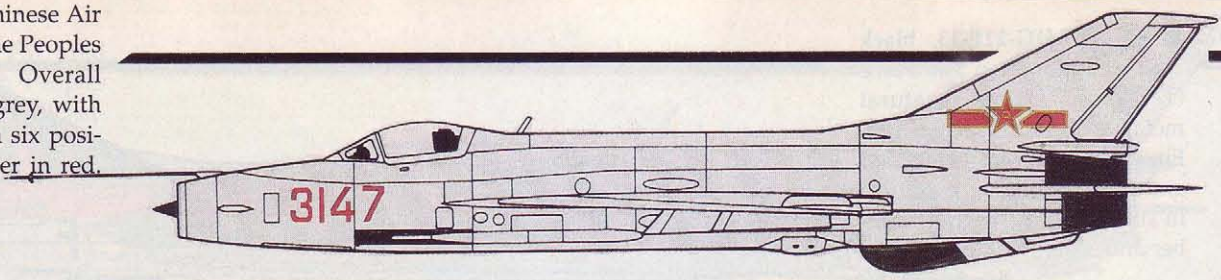
Mikoyan MiG-21F-13, red 20 of Hungarian Air Force (Magyar Legiero). Overall natural metal with national markings in six positions. Aircraft number in red with thin white outline. Note unusual red painted number.

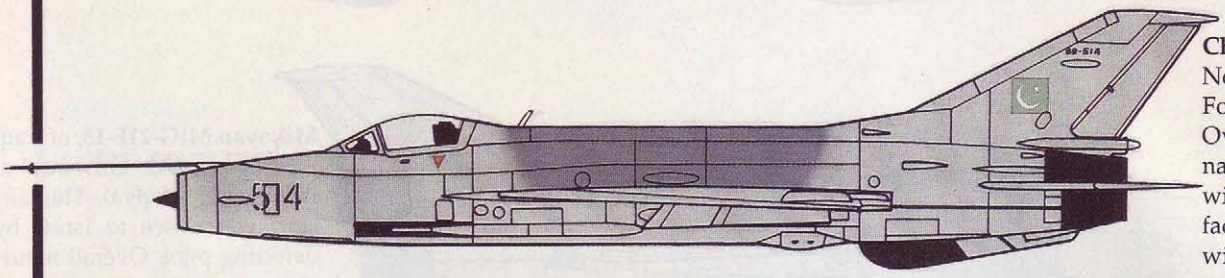




Mikoyan MiG-21F-13, red 807 of Polish Air Force. Overall natural metal with national markings in six positions. Aircraft number in red.

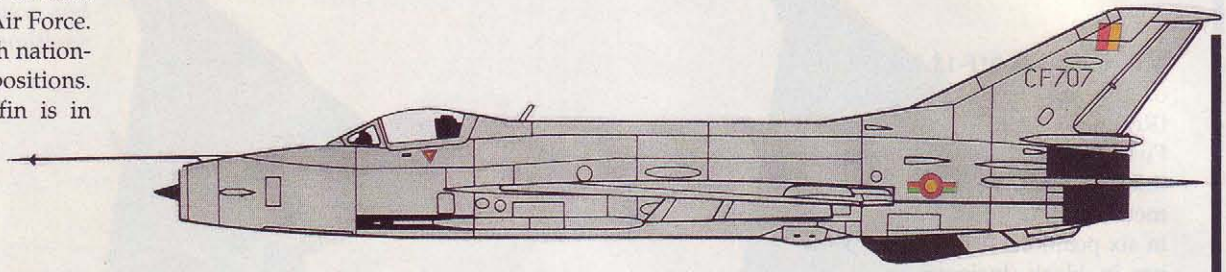
Chengdu J-7II, of Chinese Air Force (Air Force of the Peoples Liberation Army). Overall white or *very* light grey, with national markings in six positions. Aircraft number in red. Pylons in grey.



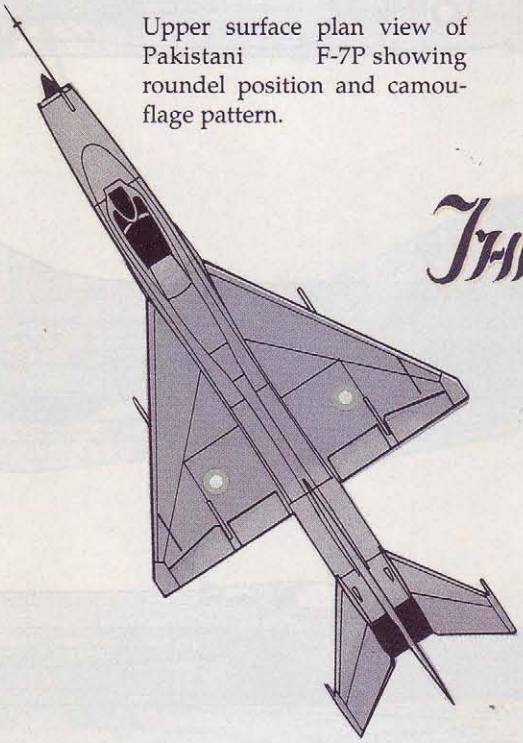


Chengdu F-7P, black 514 of No.20 Squadron, Pakistan Air Force (Pakistan Fiza'ya). Overall two-tone grey with national markings on fin and wing upper and lower surfaces. Aircraft number in black with white outline. Serial number on fin reads '88-514'.

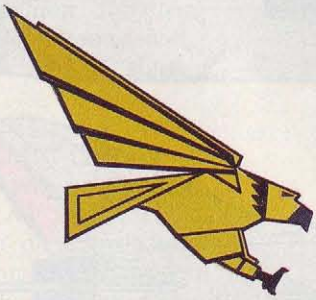
Chengdu F-7M, CF707 of No.5 Squadron, Sri Lanka Air Force. Overall light grey with national markings in six positions. Aircraft number on fin is in black stencil lettering.



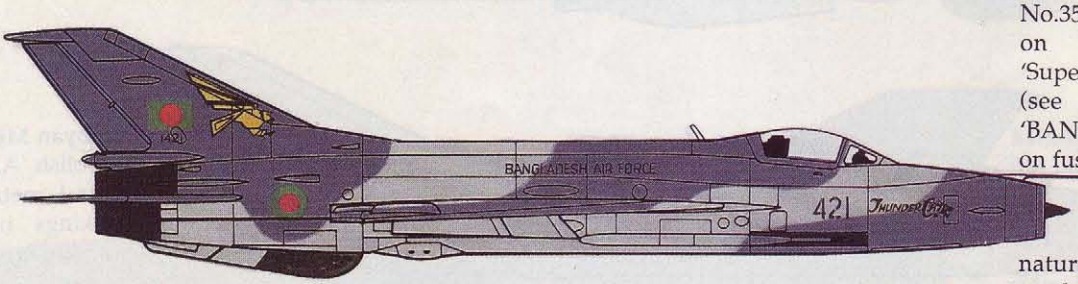
Upper surface plan view of Pakistani F-7P showing roundel position and camouflage pattern.



THUNDERCATS



Chengdu F-7M, black 421 of Bangladesh Defence Force Air Wing (Bangladesh Biman Bahini). Overall two-tone grey and grey-blue (similar to FS.36176) scheme. National markings in eight positions. Aircraft number in black stencil lettering. Serial below fin flash reads '1421'. Badge of No.35 'Thundercats' Squadron on nose and No.5 'Supersonics' Squadron on fin (see enlargements). 'BANGLADESH AIR FORCE' on fuselage in black.



natural metal with national markings in six positions. Aircraft number in red.

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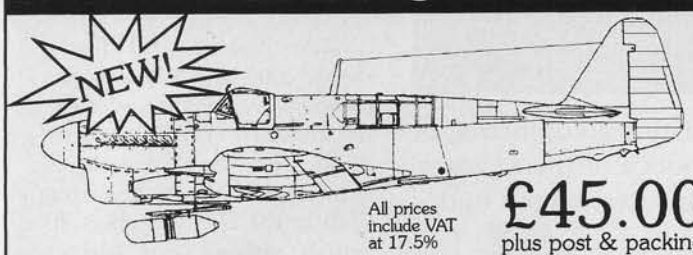

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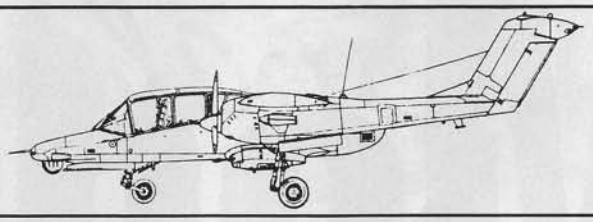

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FORTHCOMING MODELLING EVENTS

Scale Aviation Modeller will advertise forthcoming events in this column free of charge for event organisers who wish us to give advance notice of their shows. Write to the editorial address given on page 347. We'll continue to run your notice until the event is held.

Ramsgate Model Spectacular will be held at the Jackey Bakers Sportsground on 24th and 25th June 1995. The emphasis is on model flying but there will be a whole host of modelling and pastimes on display. For further details contact Dave or Sheila on 01843 841691 or (Mobile) 0831 546671.

Following the success of its one-day 1994 exhibition and competition, the **North East Modelling Society** will hold its first two-day show on the weekend of 29 and 30th July 1995 at the Borough Hall, Hartlepool. Further details on the show can be obtained from the Secretary at 6 Jude Place, Peterlee, Co Durham SR8 5JW. Telephone number is 0191 586 7139.

IPMS Avon Branch are pleased to announce their sixth annual model show and competition at the Pavillion, North Parade in the fine city of Bath on 19th August. For further details, please contact Steve Larkin on 0117 9245850.

Lordswood Model Club, in association with Revell UK, are holding their 3rd annual open day on Sunday 3rd September at Strood Library, Strood, Chatham, Kent – UK and continental model club displays, trade stands, special awards, raffle, food and refreshments, radio controlled models demonstrated (weather permitting). For further information contact D Jadoul, 12 Charter Street, Chatham, Kent ME4 5RJ (Tel 01634 841504).

Chiltern Scale Model Club annual show will be held on Sunday 8th October at the Shuttleworth Collection, Old Warden, Bedfordshire between 10 am and 5pm. There will be competitions and trade stands and entry will be via the museum. For further details write to Chris Russell, 55 Stagsden Road, Bromham, Bedford MK43 8PY.

Maquettexpo 95, organised by the Association Maquettiste Varoise in conjunction with Le Bivouac will be held at the Espace 3000 hall at Hyeres Les Palmiers, Var, France over the weekend of 14/15 October 1995. The club, which is twinned with the Poole Viking Club in the UK, welcomes all British visitors. For further information on the event, the model classes and how to get to the hall, write to Bertrand Deleest at Hôtel de Ville, BP52, 83130 La Garde, France.

Wallingford Model Club and Abingdon IPMS present a model show at the Regal Centre, Wallingford Town Centre, Wallingford, Oxon on Sunday 10th December 1995 between 10 am and 5 pm. Admission is £1 for adults, 50p for children with all proceeds to the Lessure Library. For more information contact G L Clark, 75 Station Road, Wallingford, Oxon OX10 0HU.

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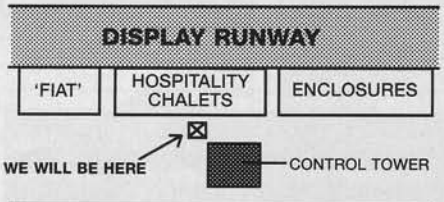

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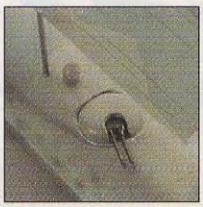
Revell's 1:72 version of the Arado 240 is an original and intriguing model for any collection.

The kit has finely recessed panel lines, interior detailing on the cockpit walls, including the gunner's periscope. There are structural details in the wheel wells and in the right hand nacelle a clear window is provided to represent the camera bay.

THE ARADO 240 AN OPERATIONAL PROTOTYPE

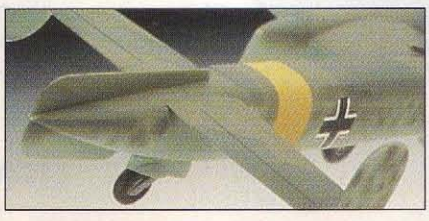
The idea of developing a single aircraft type to fulfil several roles is not new, indeed many aircraft have been written into history, like the deHavilland Mosquito and the Junkers Ju88. Both of these were adapted successfully to the role of fighter, bomber, night fighter and photo reconnaissance. The original radical design of the Arado 240 incorporated many new technical developments; the use of remotely controlled low drag gun barbettes both above and below the fuselage and operated by the navigator/gunner through a periscope system, was quite revolutionary at the time.

This system was later used by the Americans on the Boeing B-29 "SuperFortress" and the A/B-26 "Invader".
The cockpit was pressurised with the crew encapsulated in a double-glazed canopy, giving superb visibility and easy access. Space being at a premium on any combat aircraft, a camera compartment was fitted out in the right-hand engine nacelle, fulfilling the photo-reconnaissance role. Despite its advanced design, the Arado 240 never went into full scale production, although several of the prototypes saw limited service in their role of photo-reconnaissance operating over England and Italy. Several aircraft saw service in Northern Finland with *Jagdgeschwader 5* during the Winter and Spring of 1943/44.



The recent release of the Arado 240 in 1:72 scale from Revell is full of the features expected from a modern injection moulded kit. A total of 71 parts make up a very crisp rendering of this unusual aircraft.

Other details are separate scissor links and actuator arms on the bulky undercarriage legs, and movable barrettes. Both options of the Arado display the striking emblem of a pair of ravens in flight silhouetted by a rising sun. Full stencilling is also provided.



DETAILED TRANSFERS
Two decal options are included featuring two aircraft in operational testing with JG5 at Charkow in the winter of 1943.

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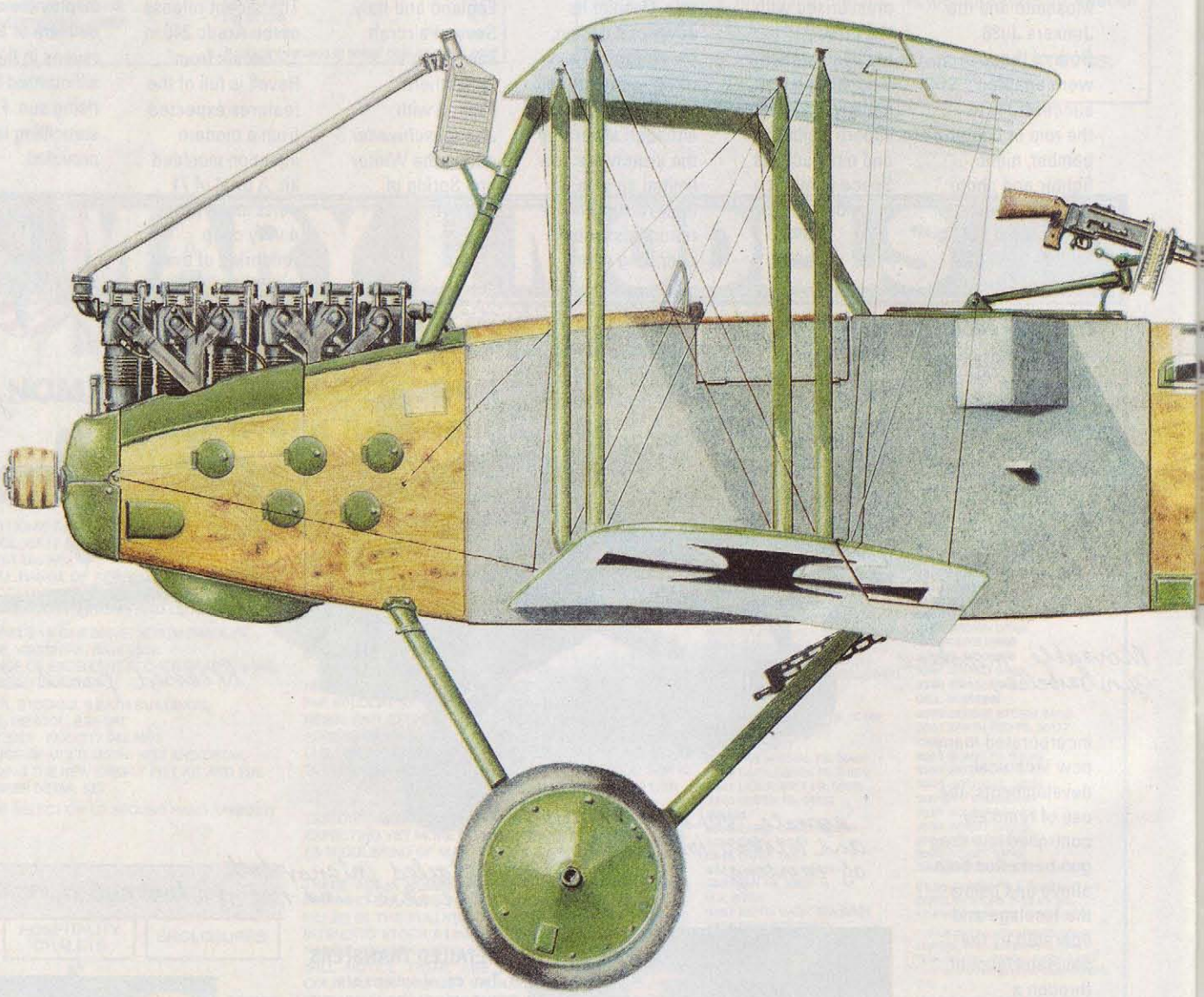
1918... The German Spring Offensive. part 1



Up to the beginning of 1918 the Allies on the Western Front had enjoyed a superiority of numbers, but with the collapse of Russia which released a large number of German troops, and their own excessive losses, this superiority had been lost, and would remain lost in the immediate future until the arrival of American reinforcements, which it was anticipated would not make a significant contribution until 1919. By March 1918 the Germans fielded 192 Divisions against 173 Allied, including Americans.

With the real threat of a massive German offensive in early 1918, the Allies were forced to recognise the need for common action and unified command.

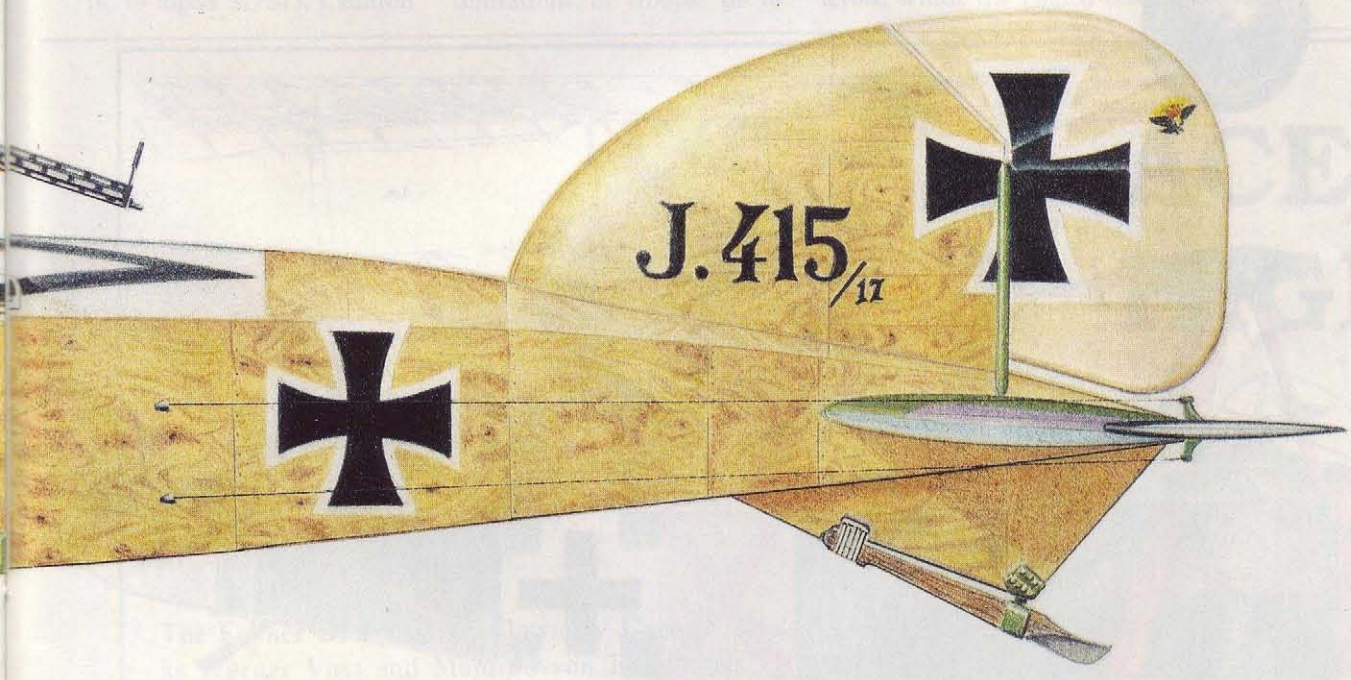
The Germans chose to attack the sector between Arras and St Quentin, this being the Allies weakest point as well as the terrain offering the fewest difficulties.

The initial strike would commence on 21st March on the Somme, the operation being given the code name 'Michael'.

Two succeeding attacks were to be launched on the British front, one on the Lys sector codenamed 'St George I' and one on the Ypres sector codenamed 'St George II'. These were designed to isolate, contain and immobilise the British and then to attack the French in the Champagne – this operation was to be codenamed 'Blucher'.

The Germans used 63 Divisions in the 'Michael' attack. The 2nd Armee (General Von Der Marwitz) and the 17th Armee (General Von Bulow) of Prince Rupprecht's group of Armees attacked along the line from Arras to St Quentin against the British 3rd Army (General Byng) and 5th Army (General Gough).

The initial objective was to establish a line extending from Croiselles, Bapaume, Perone and the Somme river. The second phase was for the 2nd Armee to advance to Arras and Albert and for the 17th Armee to go as far as possible beyond Croiselles. At the same time the German 18th Armee (General Hutier) of the Crown Prince's Group of Armees was to capture the Crozat canal and the Somme river with their vital bridges, engaging the French VIe Armee (General Ducaesne)

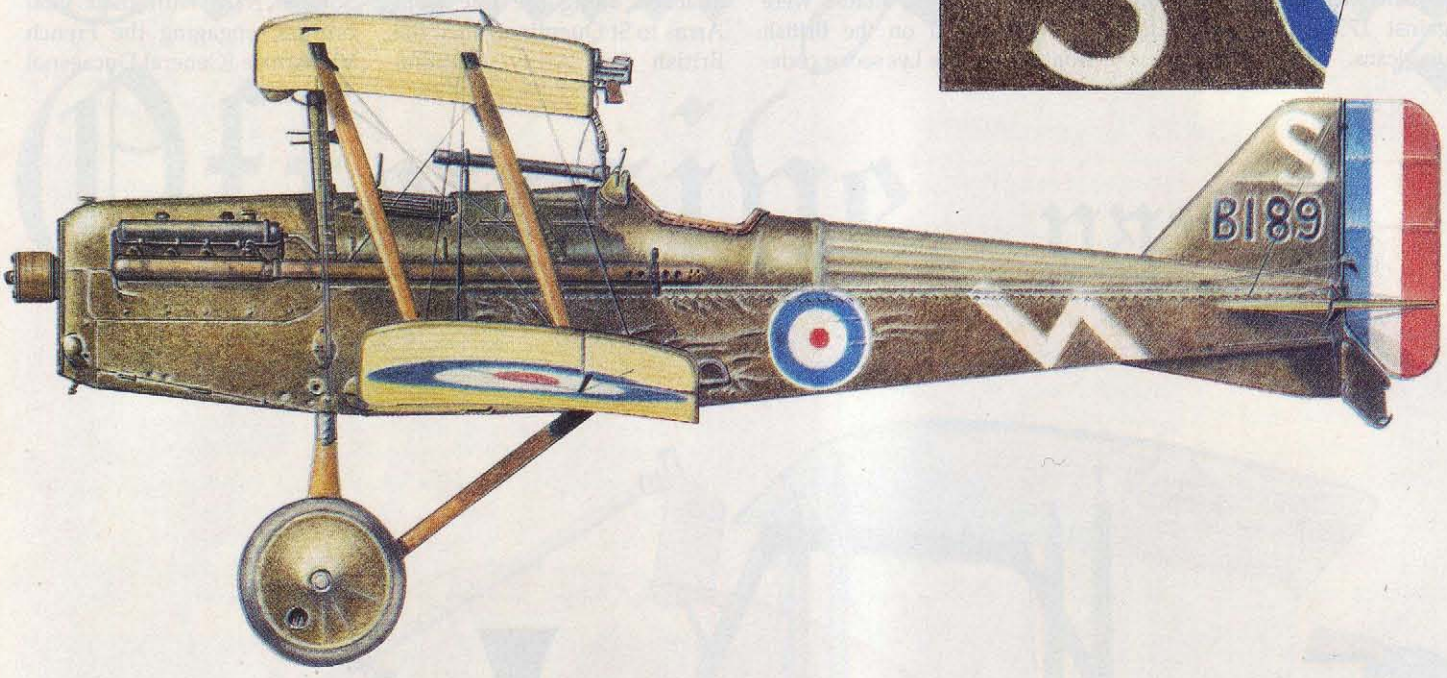


Albatros J1 415/17

This aircraft comes from an unknown Fliegerabtielang. It is possible that the top of the fuselage is overpainted with areas of mauve to coincide with the camouflage on the wings. The reference material for this illustration come from drawings by Ian Stair; page xxxiii of Grey and Thetford's *German Aircraft of the First World War* published by Putnam; pages 451–2 of *Austro-Hungarian Army Aircraft of World War 1* by Grosz, Haddow and Schlemer, published by Fly Machine Press.

SE.5a B189

This aircraft was one of a production batch of 14 aircraft built by Martinsydce and numbered B187 to B200, all powered with Peugeot-built Hispano-Suiza engines. B189 was allocated to No.40 Squadron and carried the letter 'S'. At least two victories were claimed with this aircraft during the period of the offensive: an Albatros DVa by Lieutenant William Leeming Harrison on the 29th March and a Fokker Triplane by Captain J.H. Tudhope on 11 April. The source material for this drawing came from a photograph on page 478 of *Aeroplanes of the Royal Flying Corps* by J.M. Bruce, and drawings by Chuck Hafner in World War 1 Aero.



Fokker D1 564/17

This aircraft was accepted by Jagdstaffel II on 6th April 1918 and was flown during the offensive by Lieutenant Werner Steinhausen. References for the drawings came from Charles L. Bourget's *World War 1 Aeroplanes* and page 82 of Alex Imrie's *The Fokker Triplane*, Arms and Armour Press, 1992.

on the way.

The German advance was supported by 35 Jagdstafeln (equipped with Albatros DVa, Pfalz DIIIa and Fokker Dr1 fighters), 27 Schlachstraffeln (equipped with Halberstadt and Hanover, 2-seaters), 51 Feldflieger – Abteilung (various type, mostly LVG CV/CV1 and DFW CV 2-seaters) and 4 Bombengeschwaden (AEG, Friedrichshafen and Gotha multi-engined types).

To add to the ground attack element, certain Fl-Abt units included J type armoured aircraft in their inventory.

To counter this, the British had at their disposal, 22 fighter units (nine with Sopwith Camel, seven SE5A, five Bristol F2b, one Sopwith Dolphin, one Spad S13), nine Reconnaissance/Artillery observation units (six RE8, three Armstrong Whitworth FK8), five day bomber units (DH4) and one night bomber unit (FE2b).

The French in turn would be able to call upon units from Groupe de Combat 11, 12, 15, 18, 19 (Spad S7/S13, Caudron R11) Groupe de Bombardment 1 (Vioson 8/10), 3, 4, 5, 6, 9, (Breguet 14B2) and various Artillery units (mixed equipment of Salmson 2A2/Breguet 14A2/Spad S11).

Bad weather and low cloud allowed only minimal air activity for the first two days of the offensive, however, where weather permitted flying, the German numerical superiority soon made itself felt, allowing their Army co-operation and ground attack units to operate with little opposition. By the end of the first day the British had lost two Camels, one SE5A, an FK8 and three balloons. The ground attack or Schlachstaffeln (Schlasta abbreviation) units, although having an official strength of six aircraft, had found through experience that the most efficient formation to use operationally was four aircraft. For the opening phase of the offensive it had been decided that aircraft should be used in concentrated units against specific points of resistance, such as artillery positions and concentrations of troops, or to exploit situations of strategic value. These would be either instigated by the troops on the ground through the use of wireless, flares or patterns of cloth squares laid out on the ground, or by prior target allocation with strict orders that the allocated target should not be abandoned for a more opportune or easier one.

By the 23rd the weather had improved and there followed a marked increase in Allied air activity, especially in the region of Arras, where the British were making a determined attempt to hold the town, by using low flying aircraft, in similar tactics to the German Schlasta's.

On the German 18th Armee front, French units bombed St Quentin, La Ferre and Ham.

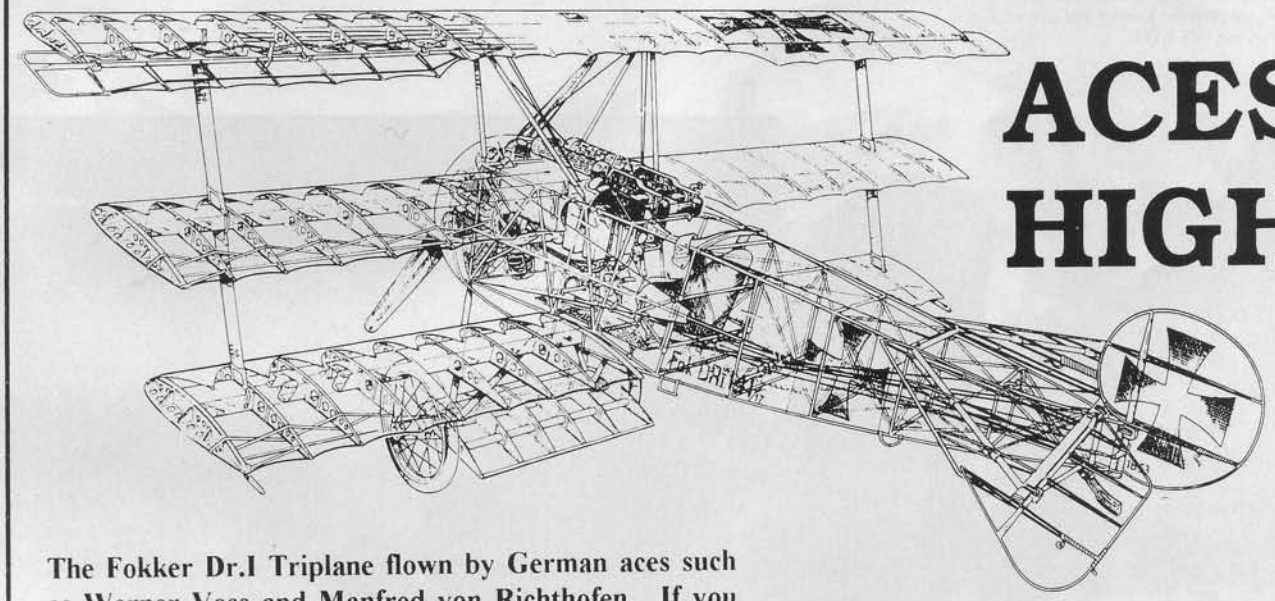
The weather continued to improve on the 24th and the German air units found their numerical superiority being eroded as the British and French rushed reinforcements to the area. The British operating in continual waves with strong standing patrols at all levels, whilst the French concentrated on bombing bridges in the vicinity of Peronne, Ham, Jussy and Tergnier, in an effort to slow down or stop the German troop movements.

A crisis point was reached on the 25th when large concentrations of German infantry broke though the British lines east of Bapaume with little or in some cases no ground opposition.

The only effective countermeasure available to the British was airpower and as a result Major General Salmond at RFC Headquarters issued an order that all Scout Squadrons were to concentrate on low-level flying against German Infantry. Again, the German Jastas encountered large waves of British aircraft to such an extent that they were unable to protect their troops.

The 26th saw a repeat of the previous day's activity, with strong British formations of up to 60 aircraft operating at all levels.

The Germans finding themselves again outnumbered, were beginning to lose the initiative.



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Curtiss P-40

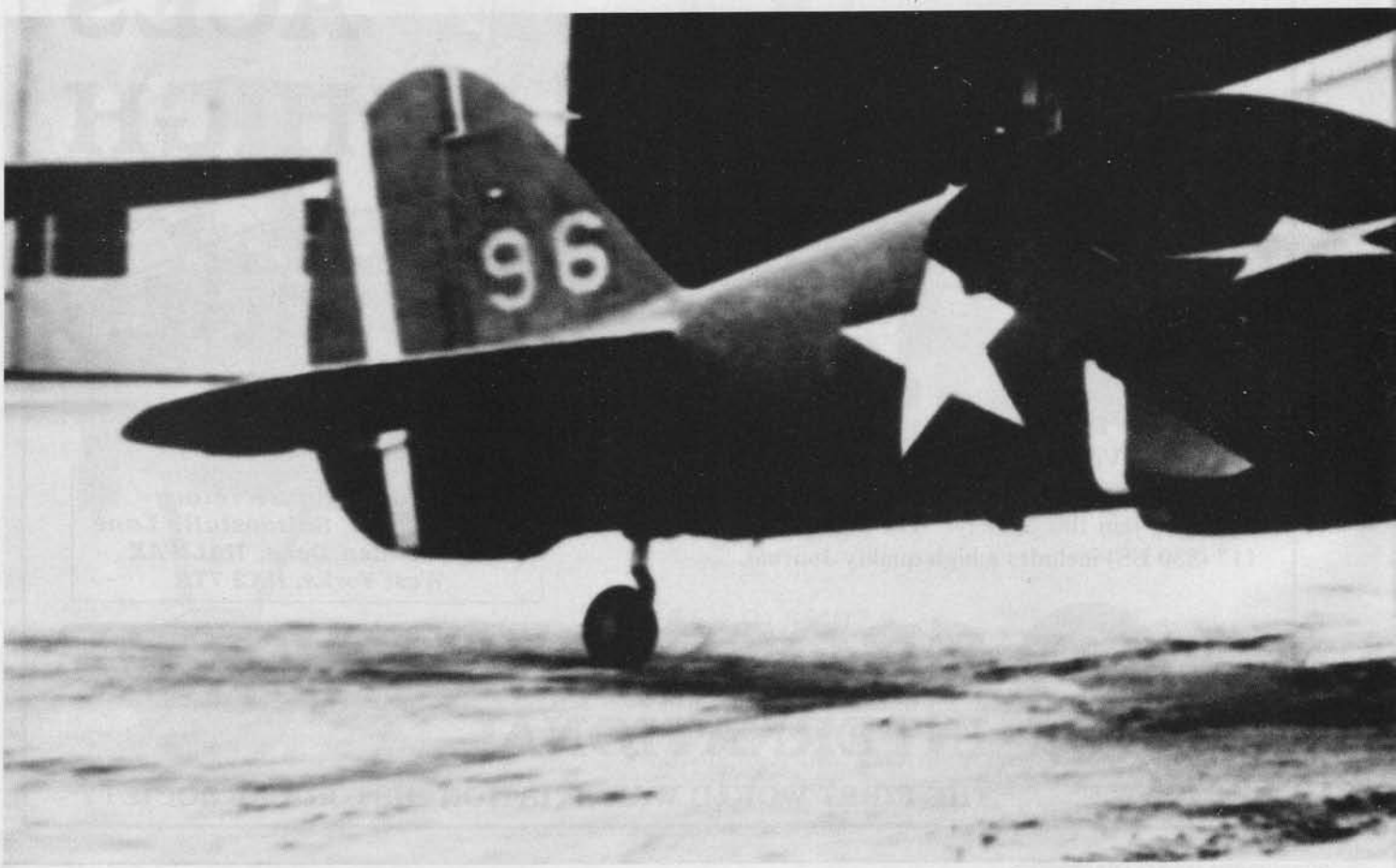
A QUESTION OF COLOUR

Malcolm V. Lowe discusses the colour schemes of the P-40 Warhawk

The question of Curtiss P-40 colour schemes has been the subject of considerable debate and much controversy over the years. The source of much of this discussion has been the fact that a significant proportion of P-40 aircraft produced by Curtiss in several distinct versions were finished in RAF- style camouflage. It is the camouflage colours used and the combination of these colours on each airframe that is the main subject matter of the arguments, and it is often the case that the controversy is renewed or started afresh when a new or re-released P-40 kit appears on the market bearing marks for an RAF-style colour scheme, or a new book is published which shows in black and white or colour these unusually controversial colours on the real aircraft.

Over the past few months a number of P-40 kits have been released or re-released, and a growing number of modellers have asked me to have a go at explaining what the rule was supposed to be for P-40 colour schemes, bearing in mind the rather bewildering variety of camouflage schemes that are mentioned on instruction sheets or box illustrations for RAF-style camouflaged P-40 aircraft of several different versions. As can be seen from my review of the re-released Hasegawa kit of the P-40E Warhawk elsewhere in this issue, it is easy to get involved within this controversy in examining the individual colours attributed by artists or kit manufacturers to individual aircraft, especially when these aircraft do not conform

Operating in Alaska and the Aleutians, the 11th Fighter Squadron adorned its P-40 Warhawks with a distinctive tiger's head design. This P-40E has an olive drab/neutral grey colour scheme, with white lines on the fuselage and rudder, and most of the tiger's head, the propeller spinner and aircraft number '96' in yellow. (USAAF)



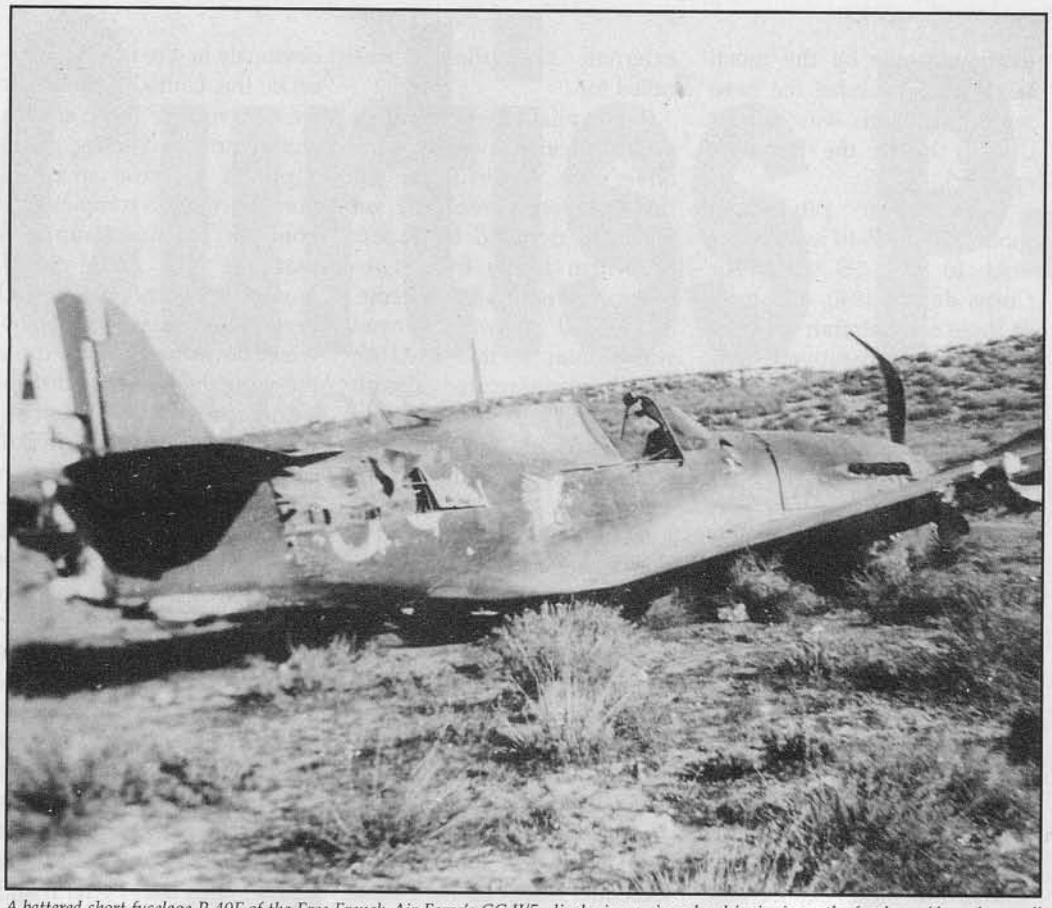
to the colour schemes as officially laid down, or known to have been applied to the aircraft at the factory or place of manufacture.

Official intentions

To begin, let us look at what was officially sanctioned, and which colours are known to have been applied (or recorded as having been applied) to the full-size aircraft. The Curtiss P-40 was manufactured in two very distinct major types. These were the early P-40 (up to and including the P-40C, which was known to the British as the Tomahawk, and which was readily distinguishable by its comparatively slender nose shape and small intake set well back under the nose); and the later and far more numerous P-40 variants (all of which were named Warhawk by the Americans and Kittyhawk by the British and Commonwealth forces, and which were distinguishable by the much larger intake under the nose whose frontage was almost directly below the propeller spinner).

The earliest production models of the P-40 were delivered to the US Army Air Corps during 1940, and most of these early aircraft received the then comparatively new USAAC standard camouflage scheme of live drab upper surfaces and neutral grey undersides (officially dark olive drab No.41 and neutral grey No.43). This, indeed, is how the whole P-40 production run of all versions would have been finished (until the introduction of 'natural metal' finishes for US fighters much later in World War 2), had it not been for the fact that the Curtiss fighter was subsequently purchased by and/or supplied to a number of overseas countries, notably Britain – and for these export customers, a completely different external camouflage was called for.

In compliance with contemporary British practice, the olive drab uppersurfaces of the P-40 were replaced on machines destined for export to British forces by a two-colour camouflage scheme. The actual *pattern* employed was similar to that used on British manufactured aircraft of the time such as the Spitfire and Hurricane (including, it seems, examples of the famous 'mirror image' variations, at least for a time), and the intention was that this 'temperate land scheme' then in use would be replicated on the export P-40 aircraft using the same colours as employed on British-manufactured fighters then in service. For the upper surfaces, this involved a dark earth (dark brown) and a dark green camouflage pattern Relevant paint specifications were laid down by the British Air Ministry. However, Curtiss obviously had to find a supplier in the United States who would produce these shades, and commenced using paints supplied to these specifications by the US company Du Pont. In practice it appears that the Du Pont paints, though excellent paints and perfectly adequate for the job, were nevertheless not quite the same shades as the British-manufactured paint used on British-manufactured aircraft. The brown in particular appears to have been a somewhat lighter shade than the British dark earth, and it is quite possible that it was somewhat prone to weathering and fading especially in the hot and bright conditions in which many of these aircraft duly operated, especially in the Pacific. The undersurface colour stipulated was equivalent to the British shade often referred to as 'sky', and for this shade the Du Pont match seems to have been a slightly



A battered short fuselage P-40F of the Free French Air Force's GC.II/5, displaying a sioux head insignia on the fuselage side and a small flying stork beneath the windscreen. Originally painted in the desert scheme of dark earth/mid-stone uppersurfaces, this aircraft and some if not all others of this unit had a third uppersurface colour of mid-brown added, it is thought to obliterate the markings of the previous owners of the aircraft. This particular machine is believed to have been serial number 41-14490, with a blue number '9' on the rear fuselage.. (Coll. J-J Petit/author's collection)

more pronounced blue shade (or even possibly more blue-grey) than the generally accepted British colour.

When World War 2 eventually spread to North Africa in earnest, the British developed a 'desert' colour scheme for Allied fighters and other aircraft operating in that theatre consisting of dark earth and a yellowish-sand colour known as 'mid-stone' or 'middle-stone' for the upper surfaces, and 'azure blue' undersides. The azure blue was a much, much deeper blue shade than the light blue of the temperature colour scheme. The *pattern* to which the upper surface colours of the 'desert' scheme were applied was similar to that used for fighters painted in the temperature colour scheme.

Desert diversion

With the increasing utilization of the P-40 by the RAF and Commonwealth forces in the desert air war, Curtiss again had turned to Du Pont for relevant shades in order to paint a growing number of export P-40s that it was producing in the 'desert' scheme as well. Again the shades used seem to have not been exact duplicates of the British produced paints used on aircraft manufactured in Britain but destined for the desert war. A number of Desert Air Force veterans have pointed out that the azure blue appeared to be a slightly greener deep blue. Further, according to the famous American researcher and authority on US camouflage and markings, Dana Bell, it appears that the dark brown used for the 'desert' scheme was of a different, darker type than that employed by Curtiss as the brown part of the dark green/dark earth temperate colour scheme. This brown was probably much less prone to fading as well.

The utilization by Curtiss of these two basic camouflage schemes — dark green/dark earth/sky, and dark earth, mid-stone, and azure blue — was spread through most versions of the P-40 line. Even into the manufacture of the 'N' version of the Warhawk, which was the last major production model, there is ample evidence that some at least of these aircraft wore schemes other than the standard Army Air Force finish.

Although the P-40s painted in RAF style camouflage were originally intended primarily for use by the RAF and other non-American armed services, and many of course did find their way into these air arms, in practice a significant number of the RAF-finished P-40 aircraft were instead used by units of the US Army Air Force. This was often — though not always — due to the requisitioning of these machines as required to fill the considerable gaps in the American inventory exposed by such disasters as Pearl Harbor and the campaigns in the Philippines and Java. Some of the first RAF-camouflaged P-40s that were flown in combat by American pilots were the early model Curtiss fighters flown in combat that were operated by the American Volunteer group (the immortal 'Flying Tigers') in China. Henceforward, RAF-camouflaged P-40s served with official USAAF units in combat over Australia and many other areas in the huge Pacific battlefield, and over other far-flung war zones right round to the Middle East, where the desert scheme-painted P-40s of course predominated.

An interesting variation on this theme occurred in the latter theatre, for which various examples of US-operated Warhawks were painted a sand colour over their entire uppersurfaces, thus concealing the original upper colour (if indeed it was applied in the first place) which is usually taken to have been olive drab, with undersides usually, if not always, in neutral grey. In operational service, this sand colour appears to have faded to a marked pinkish shade, making these particular aircraft very distinctive.

The use of sand-coloured paint as mentioned here possibly explains why some historians have written in the past that the sand shade, as well as being used on uppersurfaces by itself, was also employed as part of a two colour uppersurface camouflage scheme, in which the sand was accompanied by dark or medium green. Some writers have actually given this combination a name, 'sand and spinach'! This is not an official title, and it is interesting to note that more recent published writing on this subject has tended to discredit the notion of a definite sand and green officially-sanctioned camouflage scheme. This does not mean of course that it was impossible to find a P-40 with sand accompanying other camouflage colours, for re-painting in the field, perhaps to cover repaired battle damage or to paint out previous markings, tended to add much variety to the official colour schemes in all theatres of war. However, after several years of researching official colour schemes myself, I cannot find any conclusive evidence that Curtiss had a policy of finishing Warhawks in a sand and green camouflage scheme. Instead, it appears to have become more widely accepted by historians that the sand part of a camouflage scheme sometimes attributed to P-40s could

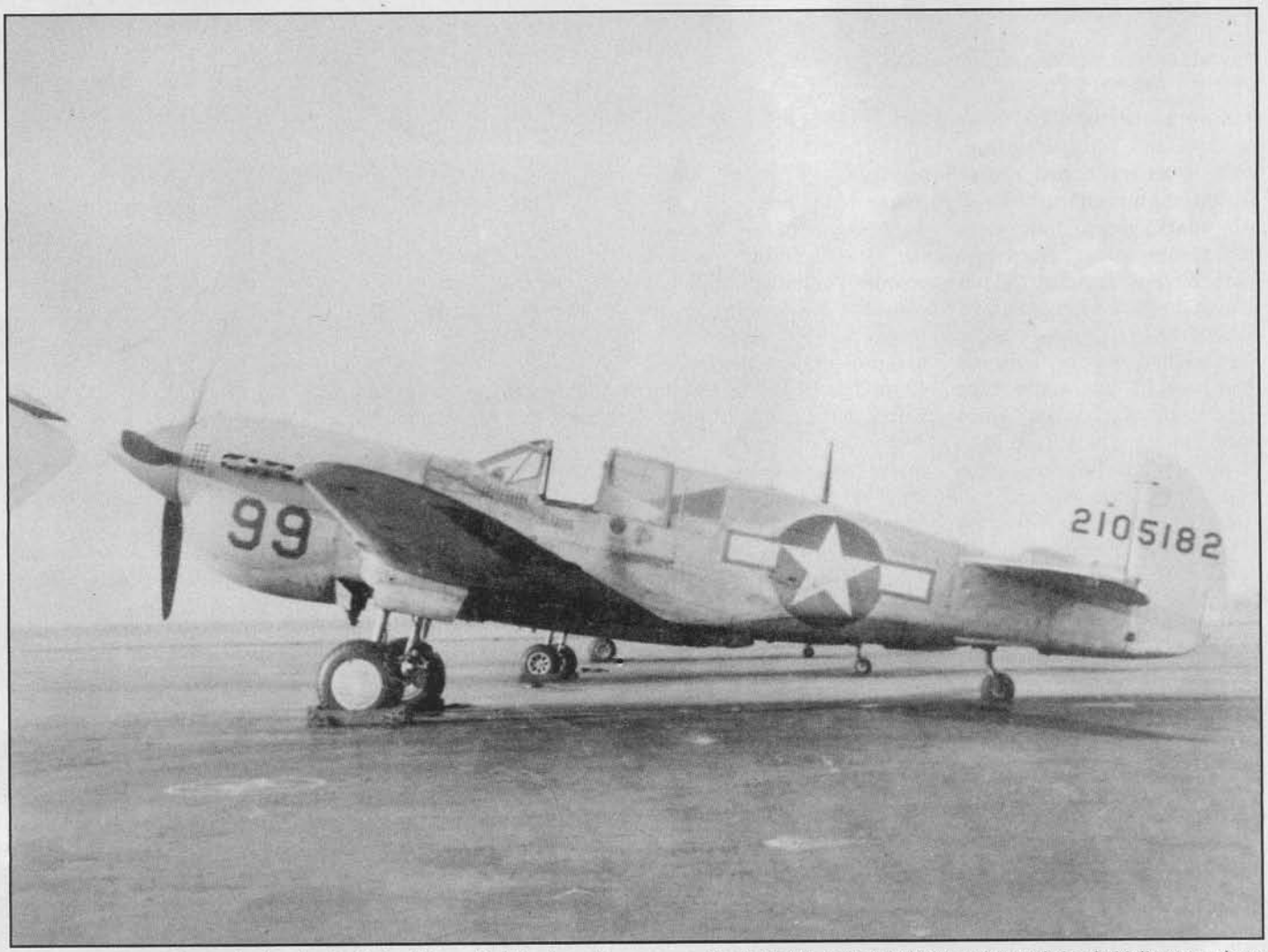
instead to be the result of the standard dark earth part of the dark green/dark earth temperate colour scheme actually fading and weathering into a shade that looked like a light brownish-sand shade, especially on black and white photographs. When one remembers that Curtiss appeared to use a dark brown shade for its temperate scheme-painted P-40s which was already a lighter brown shade compared to that used on British-manufactured fighters, then this suggestion becomes even more possible.

A further variation to the foregoing occurred during late 1942 and early 1943, when a number of Warhawks were passed to the Free French forces in North Africa, and operated with the reconstituted unit GC.II/5. Many of these aircraft were P-40F versions, and began life with the two-colour upper surface dark earth/mid-stone camouflage. However, most if not all of them were given a third uppersurface colour, which appears to have consisted mainly of patches of mid-brown paint sprayed onto the airframes. These patches might have been sprayed to obliterate the existing US national insignia and other markings from their previous owners prior to the application of French insignia, but the painting on of this extra paint effectively gave the aircraft a three-colour uppersurface camouflage, which by chance was in keeping with the French doctrine of uppersurface camouflage during the war which insisted, more often than not, on three camouflage colours.

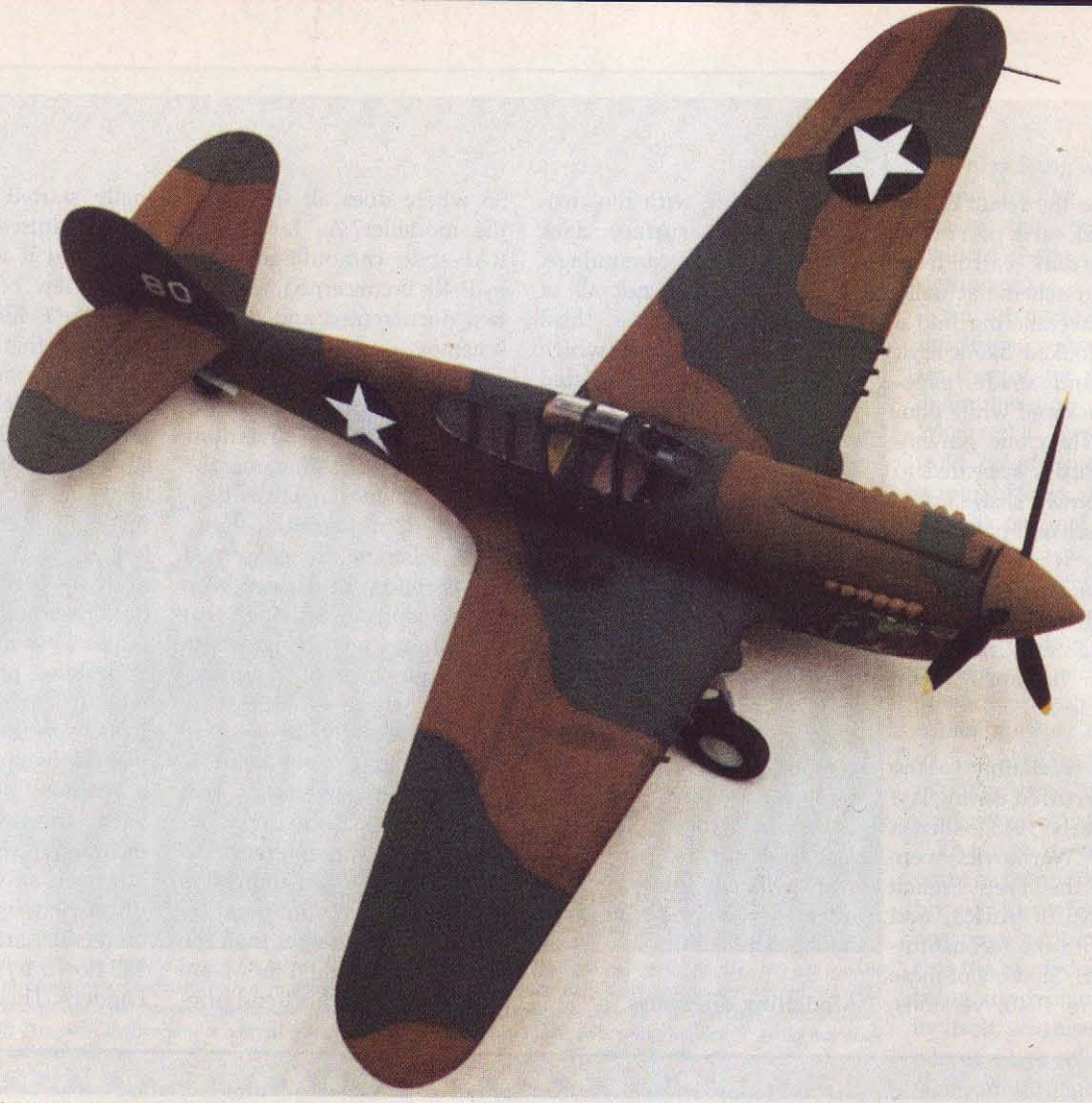
Modelling dilemmas

So where does all this leave the modeller? As far as the RAF-style camouflage worn by P-40s is concerned, we have two documented and distinct schemes — dark green/dark earth/sky, and dark earth/mid-stone/azure blue. Any published deviations from these two documented colour schemes as far as two-colour uppersurface camouflage schemes are concerned can therefore be viewed with some suspicion, although that is not to say any changes from the colours mentioned are necessarily wrong — unless the deviations really do seem to defy logical explanation. Interestingly, a variation that seems to have really caught on recently is the reference to neutral grey as an underside colour for the temperature colour scheme rather than the documented light blue. I am not sure where this trend originally started (possibly from the reminiscences of veterans?), but it will be noted in my review of the Hasegawa kit of the P-40E Warhawk elsewhere in this issue that I finished the undersides of the review model in light blue rather than the neutral grey suggested on the kit's instructions. I await to be convinced that neutral grey was definitely used by Curtiss in combination with the uppersurface dark earth and dark green colours, but if any readers can definitely prove otherwise with the evidence of Curtiss works specifications and company drawings ...

The main potential problem with the colour schemes included in the Hasegawa kit, however, as will be noted in my review, is the azure blue undersides attributed to the P-40E flown by Lieutenant John Landers. This aircraft is often



By the time of the P-40N's operational service, the Warhawk line could still boast more than one camouflage finish. This particular P-40N was photographed in the Mediterranean theatre and wears well-worn light-coloured uppersurfaces which suggest possibly a sand or 'desert pink' overall upper colour scheme, with neutral grey undersides, as worn by a significant number of Warhawks that fought in that theatre. (Coll. J-J Petit/author's collection)



The author's model of the Hasegawa P-40E Warhawk in 1:72nd scale, as reviewed elsewhere in this issue of Scale Aviation Modeller. *It wears the temperate colour scheme of dark earth/dark green/sky. (Author)*

drawn as having dark green and sand uppersurfaces which, as mentioned earlier, could be a misinterpretation of the dark green/dark earth temperate colour scheme in which the dark earth has faded down to a lighter shade. However, whatever the story of the sand may be, why has the aircraft got azure blue undersides if it has dark green on its uppersurfaces? — remembering that azure blue was used on the undersides of dark earth/mid-stone painted P-40s, and not those with dark green as a part of their upper colours. The aircraft would surely not have left the factory painted in this way, and if indeed it was azure blue underneath then this would presumably be the result of repainting — and if so, then why the whole underside, and not just localised areas perhaps to conceal repaired battle damage. I would be interested to see a plausible explanation, but in the meantime I think that there are rather too many questions hanging over this particular scheme, and therefore I did not finish my review model as this aircraft!

Suggested paints

As for the more readily accepted P-40 colour scheme colours/combinations, let us conclude by looking at the model paints that can be used to represent these shades on P-40 models. To begin with, the paints that I employ to represent olive drab/neutral grey colours as applied to many of the P-40s not finished in RAF-style camouflage, are Humbrol No.155 for the olive drab, and Humbrol No.64 for the neutral grey, although I have also used Humbrol No.126 for the grey (which is shiny, and needs to be matt varnished without hesitation when the model is finished). *Never* use Humbrol No.66 to represent olive drab on a wartime USAAF aircraft model — it is far too dark, even though it is often claimed as the correct shade — *it is not!*

The dark earth/dark green/sky of the temperate colour scheme are referred to in my review of the Hasegawa P-40E, namely Humbrol Nos.29, 30, and 23 respectively, the latter with a spot of dark blue to give it a *slightly* more blue appearance. As for the desert scheme, I tend to go for Xtracolor paints, namely numbers X2 (dark earth), X9 (mid-stone), and X26 (azure blue). The Xtracolor paints, incidentally, are produced shiny, all ready for you to apply the decals to the model, after which the whole model should be painted or airbrushed overall with Xtracolor matt varnish to finish if you use these Xtracolor paints. The Humbrol dark earth (No.29) referred to above, incidentally, seems to be a different mix to how it was in the past, the tins that I have bought recently seemingly representing a lighter brown which fits in nicely with the American interpretation of the dark earth in the temperate colour scheme.

Hopefully the foregoing will help to give a slightly clearer picture of P-40 colour schemes, but remember that it is always good advice to try to research as thoroughly as possible the specific aircraft itself that you are modelling (and not to necessarily believe everything without question that appears on instruction sheets or other possibly misleading sources), while having at least one if not more photographs of that specific aircraft in front of you when you are recreating it in miniature.

References

There are many published references on the Curtiss P-40 series. A very interesting recent source on this subject is Dana Bell's article in *Fine Scale Modeler*, January 1995, which I feel should be read before consulting other published references on P-40 colour schemes. A further valuable to the published material on the P-40 is Jeffrey Ethell's P-40 volume in the Motorbooks International *Enthusiast Color Series*, which contains colour pictures many from private collections, of Warhawks in World War 2, in addition to some excellent colour views of the P-40's predecessor, the P-36.

The Poole Viking Model Club Annual Model Show

Report by Malcolm V. Lowe

The Poole Viking Model Club's Viking head insignia adorns a part of the club's large display at the Poole show — visible just to the left of the Revell logo are some of John Neale's superb scratch-built biplanes, with a 1:36th scale FE.2b at the front. (Alan Mansell)

Amongst the various model shows and exhibitions held each year in the south of England, the annual model convention hosted in Dorset by the Poole Viking Model Club has become one of the largest and most important. This year's show, held in Poole in mid-May, reflected the growing significance of this event, and with attendances well up on last year's record figure, and with an increasing number of traders and visiting clubs present, Poole can certainly boast a veritable delight for the modelling enthusiast.

Famous members

The Poole Viking Model Club itself has been in existence for roughly ten years, and has grown from small beginnings into an organisation with a large and ever-growing membership, and has several members who have gained fame by becoming national champions at recent and at the most recent IPMS Nationals. The club also boasts a number of 'cottage industry' producers in its ranks. However, in addition to these highly capable and accomplished modellers, the club encourages modellers of every level of modelling experience and age, and includes in its ranks members who range in years from juniors up to senior citizens. One of the 'elder statesmen' of the club is John Neale, who is a very skilled builder of scratch-built biplanes and World War 2 subjects in large scale, and who particularly delights in building models of aircraft that he has actually flown — these including the Vickers Warwick, a type that he piloted in the later stages of World War 2.

The Poole Viking Club also incorporates Dorset IPMS, and includes amongst its members Martin Hale, the celebrated head of the IPMS Fleet Air Arm Special Interest Group. His scratch-built vacuformed Hiller HT.2 helicopter is currently a national champion, and it carried off a number of top honours at this year's Poole Viking model show.

Without doubt the oldest model show at Poole, this Boeing B-17F Flying Fortress was made by the author's father, Victor Lowe, during 1944 out of balsa wood, and is painted in the markings of the 303rd Bomb Group, US Eighth Army Air Force. (Author)

Successful 'twinning'

An idea pioneered successfully by the Poole Viking Model Club is the concept of twinning with overseas model clubs or similar organisations. To this end the Poole Vikings have been twinned for almost three years with a modelling club in the south of France, the Association Maquettiste Variose, or AMV '83. This organisation is based near the French naval port of Toulon, and has strong links with the French naval air arm. For this year's Poole Viking model show several members of AMV '83 made the long journey up to Poole with a selection of their models. In return, members of the Poole Viking club attend each year's large model convention staged by the AMV '83 in the south of France; last year, Martin Hale and myself had the pleasure of exhibiting at this major French event, and successfully came away with some of the silverware from their competition classes! The benefits of this type of twinning are potentially considerable, not only in the exchange of mutual modelling ideas and procedures (which can vary quite considerably from one country to another), but in the exchange and dissemination of modelling data, references, photographs, and available kits, as well as it being a great pleasure to make friends with modellers from

Illustrating what can be built with PP Aerokits' very welcome detail parts for the Sea Fury in 1:48th scale, Robin Powell of the Poole Scale Modellers Club won a gold medal for this beautiful model. (Alan Mansell)

The resin kits to 1:72nd scale by Magna Models are becoming increasingly popular and successful. This Miles Martinet target-tower was made by Bob Richards, and won the Magna Models Trophy at Poole. (Alan Mansell).

different backgrounds and cultures. The only real potential pitfalls for anyone contemplating such a venture is the language barrier — luckily both myself and Martin Hale are fluent in French, which is as well because none of the AMV '83 members speak English!

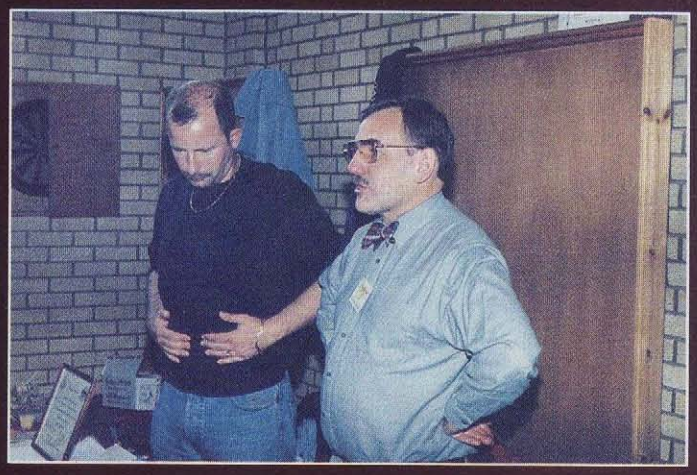
In addition to the large display laid on by AMV '83 at the Poole Viking show, some 16 modelling clubs and associations exhibited at this year's event. Most of these club stands were either wholly aviation orientated or included aircraft models as a significant part of their displays. These clubs came from all over the south of England, and from as far away as South Wales and Hertfordshire. Several IPMS branches were represented, including Abingdon and Avon, while the IPMS French Air Force Special Interest Group was also well to the fore with its excellent variety of French aircraft models. The centrepiece of the club stands was Poole Viking's own club display, featuring the club's famous Viking head insignia. In addition, the area in and around Poole also boasts a second modelling club, the Poole Scale Modellers, and this club also mounted a major display. The fact that the Poole area has no less than two important clubs reflects the amount of interest in modelling that is found in that part of the south of England.

Important traders

An interesting variety of traders also had trade stands at the show. These included a number of local traders, such as Plastic Past-Times of Poole who are well known as a supplier of second hand, rare and hard-to-find kits, as well as selling an increasing selection of newly released kits. Further, again reflecting the growing importance of the Poole event, a number of 'big name' manufacturers are also becoming established as exhibitors at the show. These include PP Aeroparts, whose successful line of 1:48th scale products now features a complete Fairey Firefly kit, and a super-detailing set for the Hobbycraft Sea Fury — indeed, one of the top award winners at the Poole Viking show was a beautiful 1:48th scale Sea Fury by Robin Powell of the Poole Scale Modellers Club, which used the Sea Fury detail set to considerable advantage. These products, incidentally, are produced under the PP Aerokits label.

Another important producer to be present was Jean-Pierre Desprès of Model Art Decal System, who had made the long journey from Bury in Lancashire to open up shop at the show. Once more reflecting the growing significance of the event, this company chose the model show to launch several new decal sheets. In 1:72nd scale: these are sheet No. 72-018, which covers the Fairey Gannet AS.1 and ECM.6 in Royal Navy markings, plus a variety of Douglas Invaders in French Air Force markings; and No. 72-019 featuring Royal Navy-operated Skyraider AEW.1s (suitable for the recent Magna Models kit), single and two-seat Swiss Air Force Vampires, Vought 156 of the French naval air arm in 1940, and Morane Saulnier Vanneau (in-line and radial engined versions) in French Air Force markings. The releases in 1:48th scale are No. 48-002, covering Wyvern S4s of the Fleet Air Arm (suitable for the recent Dynavector kit), Douglas Dauntless of the French naval air arm, and Dewoitine D.520s of the French Air Force in 1944; and No.48-003, featuring Hawker Hunters of the Royal Navy and the FRADU, several Swiss Air Force Hunters, plus a number of French Air Force Douglas Invaders. These releases are all produced to the usual high standards associated with Model Art's products.

Amongst local 'cottage industry' manufacturers also present was Magna Models. This concern is the creation of Martyn Gomm of the Poole Viking Club, and now boasts a considerable range of resin complete kits and conversions which primarily cover Royal Navy subjects in 1:72nd scale. Amongst the recent releases by this significant manufacturer are a complete kit of the Douglas Skyraider AEW.1, as well as a complete kit of the Fairey Gannet AEW.3 (both of these include various white metal detail parts as well). In a recently launched range of accessories by Magna are such products as passenger seats to go inside the Airfix Heron/Sea Heron, and a conversion set featuring replacement wings and propeller for a Hurricane Mk.I.



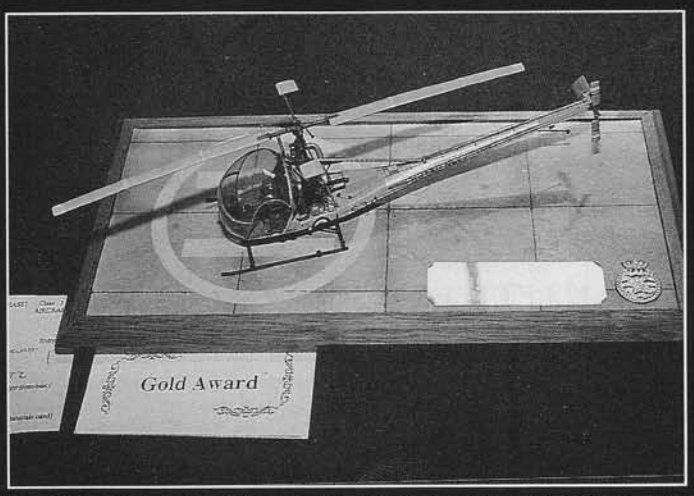
One of the important traders to attend the show, Jean-Pierre Desprès (on the right) of Model Art decals describes the finer points of his new decal sheet releases to an attentive audience (Author)

Wearing the all-black colour scheme of a Hurn-based Fleet Requirements Unit Sea Hawk, this 1:72nd scale model by Ian Dominey of the Poole Vikings won a gold medal and displays what can be achieved with a very basic kit as a starting point. (Alan Mansell)

'Open' competitions

An important aspect of the Poole Viking model show is the modelling competition, and this year's event once more attracted a large number of entries in the various subject classes. The Poole Vikings are amongst the pioneers of 'Open' judging and competition format, in which the rigid system of 'first, second, and third' found in many tradi-

Bill Allan of the Salisbury Model Club gained a silver medal at Poole for this beautifully detailed Grumman EA-6B Prowler in 1:48th scale. (Author)



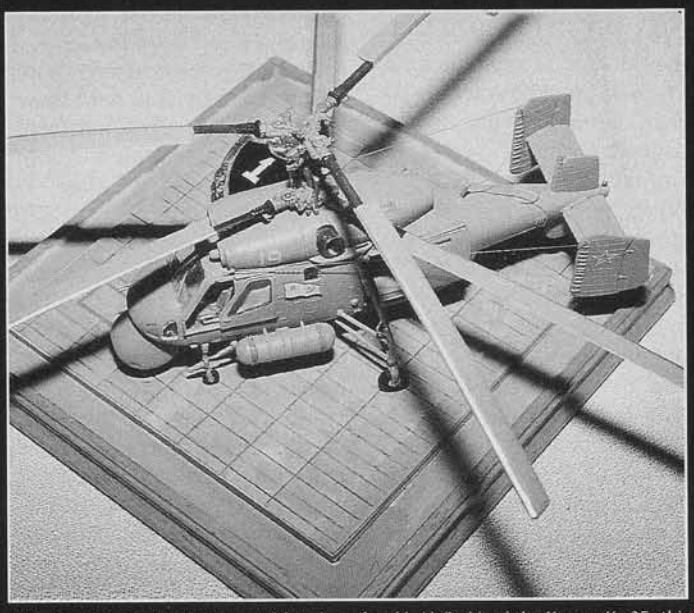
One of the most famous models currently on the model show circuit is Martin Hale's scratch-built vacuformed Hiller HT.2 helicopter in Royal Navy markings. Already a national champion, it won a gold medal at Poole. (Alan Mansell)

tional competitions has been abandoned in favour of giving gold, silver and bronze medals (with relevant certificates), plus Highly Commended awards, to the top models in each particular competition class. Each model entered is judged and marked on its own merits and not rigidly compared with other models in the same class — the overall concept being to reward excellence for individual models rather than having each model in competition with other entries in its class in order to compile a strict listing. Thus it is possible for there to be more than one gold award in any given class, similarly more than one silver, more than one bronze, etc. In the case of the aircraft competition at Poole, which always attracts upwards of 100 entries, this 'Open' system successfully rewards models of high quality, of which there are going to be at least 15 to 20 in such a large and high quality competition field; if the rigid first, second, and third system is applied to such large classes, then more than a handful of very good models that deserve awards are forced to go away unrewarded, which is surely very unfair. The 'Open' competition system adopted by the Poole Vikings certainly seems to be a much fairer way of judging models, and it is being looked at with interest by a variety of other clubs for their own competitions, while others already have their own versions of this concept.

In addition to the competition classes themselves, a number of trophies for 'best in show' in several special subject categories are also awarded at the Poole Viking show. These include such diverse trophies as the best model made from a Magna Models kit (won this year by Bob Richards with a 1:72nd scale Miles Martinet target tower), and the best model constructed from a vacuform kit (won by the prolific Robin Powell of Poole Scale Modellers, with a 1:72nd scale Twin Pioneer made from the Hallam-Vac kit).

Few if any would disagree that this year's show was once more an interesting and highly successful event, which was thoroughly enjoyed by the many members of the public who visited, and the planning is already well advanced for next year's event — albeit with the realisation that the show has now effectively outgrown its present large church hall and adjoining rooms location, and will certainly need a bigger venue soon if the growing number of visiting clubs and traders are to be packed in for future events. Any modellers in the Poole and surrounding areas who are interested in joining the Poole Viking Model Club will be made very welcome and can obtain further details from the club's secretary, John Bothamley, telephone (01202) 527723.

A pair of distinctive commemorative colour scheme Belgian Air Force Mirage V models in 1:72nd scale displayed on the AMV '83 stand at Poole. (Alan Mansell)



All rotor blades and red stars, and based on the old Airfix kit of the Kamov Ka-25, this Soviet navy Kamov helicopter in 1:72nd scale graced the French AMV '83 stand. (Alan Mansell)

Postbag

GERMAN LETTERS

Still absorbing the information in *Scale Aviation Modeller* Vol.1 No.5 and as usual the World War 2 items had my early attention.

Michael Payne's piece on page 272 had me searching through my books as I could recall seeing the identical photograph of Sergeant Mann's Spitfire. Eventually the picture was found in the soft covered edition of *The Guinea Pig Club* by Edward Bishop published by Corgi, my copy dating back to 1963.

For the record it is confirmed that the individual letter is 'B', no question about that, with the unit code 'DL' just about readable as the 'D' is touching the rear band.

The author does not draw attention to the apparent white tip on this aircraft's tail. I noted it on seeing the photo all those years ago and looking again the bottom of the painting is finished of very carefully with a straight line. It does not seem to be fire damage as the fabric on the rudder has gone, but the metal skinning on the fin looks OK, likewise the fin flash.

Ron Durand
Rustington, West Sussex

MULTI-MEDIA AND WORLD WAR 1

I should like to comment on the feature on photo-etching by Richard Franks in his 'Multi-Media Experience' series in your May issue.

When or where this process originated is not known except that it was described to me in the late 1950s and in the 1960s professional modellers were using the technique.

The first 'company' to make etched-metal model aircraft parts available to modellers was that of Fred Hultberg of Canada (latterly in the USA). I first saw his advertisement in a magazine in February 1972 offering the service to modellers and even at that time he was offering 'step etching' (making items in relief from thicker metals) and photo-etched parts in brass, copper, phospher-bronze and nickel silver.

Unlike the few other firms he provided advice and a service which was both comprehensible and reasonable in price, being a modeller himself. I sent a test sheet of my own design to Hultberg in February 1973 and received some samples. I then created a complicated pair of designs for items in 1:48th scale, all concerned with World War 1 aviation. These included jackets, in the flat, for several machine guns, Scarff rings, bomb sights, spoked wheels, seats, instrument bezels, propeller hub plates, etc. These items were produced in thin brass in two sheets to a very high standard by Hultberg and I gave him permission to market my designs (many of which have been copied – and still are).

Hultberg started to market the sheets available by post in early 1975, rather before anyone else. The process and the sheets were described by the undersigned in *Scale Modeller* in its issues of November 1973 and September 1976. I also produced a description of the process and designed a number of patterns for ship modellers published in *Model Shipwright* in December 1979.

Richard's comments about safety when dealing with these tiny parts are very pertinent (the use of a mounted illuminated magnifying glass is mandatory) but do we still have asbestos gloves?

The magnifying glass provides some eye protection but this writer never needed to use goggles or fume masks when assembling the tiny fragments. What does Richard think we used before superglues with all their dangerous properties appeared? Well, I used nothing more hazardous than Humbrol matt varnish: it sticks well provided one waits for it to dry. The parts are so small and light, they adhere very well. Hultberg's products are all separate and laid out on a plastic sheet base, the items being removed by washing with white spirit, much easier and less dangerous than cutting. I must say that that I was somewhat astonished, to learn from Hultberg that he had marketed many of my designs in 1:72nd scale!

As Richard asks for additions to his list may I suggest that he adds the pioneer Fred Hultberg who still produces all kinds of items including my original designs under name of Fotocut, Box 120, Erieville, New York, NY, 13061, USA. The items are also sold at various retail outlets in the UK.

With reference to the feature on British Aircraft Colours of World War 1 by Geoff Thomas, I would question the statement that at the end of 1915 or so, some RNAS aircraft were variously finished in light grey overall or in disruptive 'white' and grey. It is known that one of two Fokker monoplanes were covered with a fabric printed with small dots, resulting in an overall pale grey appearance but I do not think it was general. The printed dot system was also used on Zeppelin envelopes to save weight. What is the difference between 'mimetic camouflage' and a 'disruptive camouflage'?

It is difficult to judge the proportions of the roundels of the Vickers FB.9 pictured on page 247 as the picture is so badly warped horizontally unless one accepts that the aircraft had ellipitcal wheels! Incidentally, the side panels of the FB.9 were of fabric, not plywood.

The use of large polygons, regular and irregular on some large German aircraft was noted in 1917. The finish was painted on to fabric and wooden surfaces by hand.

The Nieuport XII on page 248 would not be in 'Gris-alluminise' (this literally means grey-aluminium – as aluminium is already grey-silver this sounds like tautology). The early Nieuports (types X, XI and XII) arrived before the aluminium powder based dopes appeared in mid 1916.

The Bristol Scout line-up on page 249 (another familiar IWM photo) was most likely photographed at Eastchurch in early August 1915 when these four machines (of the batch 1243-1266) were all there at the same time after being received from the manufacturer and assembled. No.1246 probably had its rudder painted there also (why a replacement rudder?). It also had an upper wing gun mounting and dart boxes fitted.

The Morane Saulnier 'N' seen in the familiar photo on the same page was also probably photographed in England. The machine, serial A.186, was returned for training purposes. The officer in this much photographed Morane was Lieutenant T.P.H. Mayetto, who flew the type with No.3 Squadron in France shortly beforehand. It is not true to say that the 'N's were the only monoplanes in service with the RFC in summer 1916 (June-August), as there were a few Parasols (type LA) *still* soldiering on in No.3 Squadron.

There is a tendency to assume that all photographs of the 'N' with a dark nose indicate red paint. In fact, the MS company adopted the practice before the war of protecting the metalwork of their products by painting the metal areas with black enamel, often incorrectly identified as red. This black enamel finish certainly applied to the MS types G, H, L, LA, N and some Is. The order from RFC HQ to paint the metal parts red was made effective from 20 July 1916. It is not known how far this order was carried out as the 'N's were by then fading out as was the Fokker E, types for which they were mistaken. The red paint instruction was copied to the French but it is not known if they adopted it.

Incidentally, the 'N' shown in the photo – or anywhere else – did not have the upper surfaces painted 'vert-olive clair' (why not just say plain olive-green!). These Moranes, like many other French aircraft of the same vintage, appeared in a fawn colour of varying shades according to the protective finishes applied. In view of the variations, any attempt to be precise with this colour would be pointless. In simple terms the colours were a series of browns from light to medium. In black and white photographs they appear on various shades of grey.

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INNOVATIVE DESIGN
The HORTEN IX/GO 229 may never have seen active service with the Luftwaffe, but it did pave the way for aircraft design nearly fifty years later.

THE HORTEN 'FLYING WING'

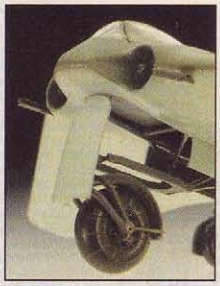
No greater advances were ever made in aeronautics than during the Second World War.
In Germany in the 1930's, the Horten Brothers successfully built and flew several gliding flying wings, which were responsible for winning numerous gliding competitions. The jet powered flying wing, a direct development from the earlier gliders can best be described even by today's standards as futuristic.

Recent developments have seen the emergence of the Stealth B-2 Bomber, a direct descendent of the Horten IX. The GO 229 as it later became known after production of the aircraft was placed with Gothaer Waggonfabrik, a former manufacturer of railway wagons, who also had experience in wood and light metal frame construction on various large transport glider aircraft types.

Revell's new 1:72 scale kit of the Horten IX/GO 229 consists of over 60 finely engraved parts, including a fully detailed cockpit with

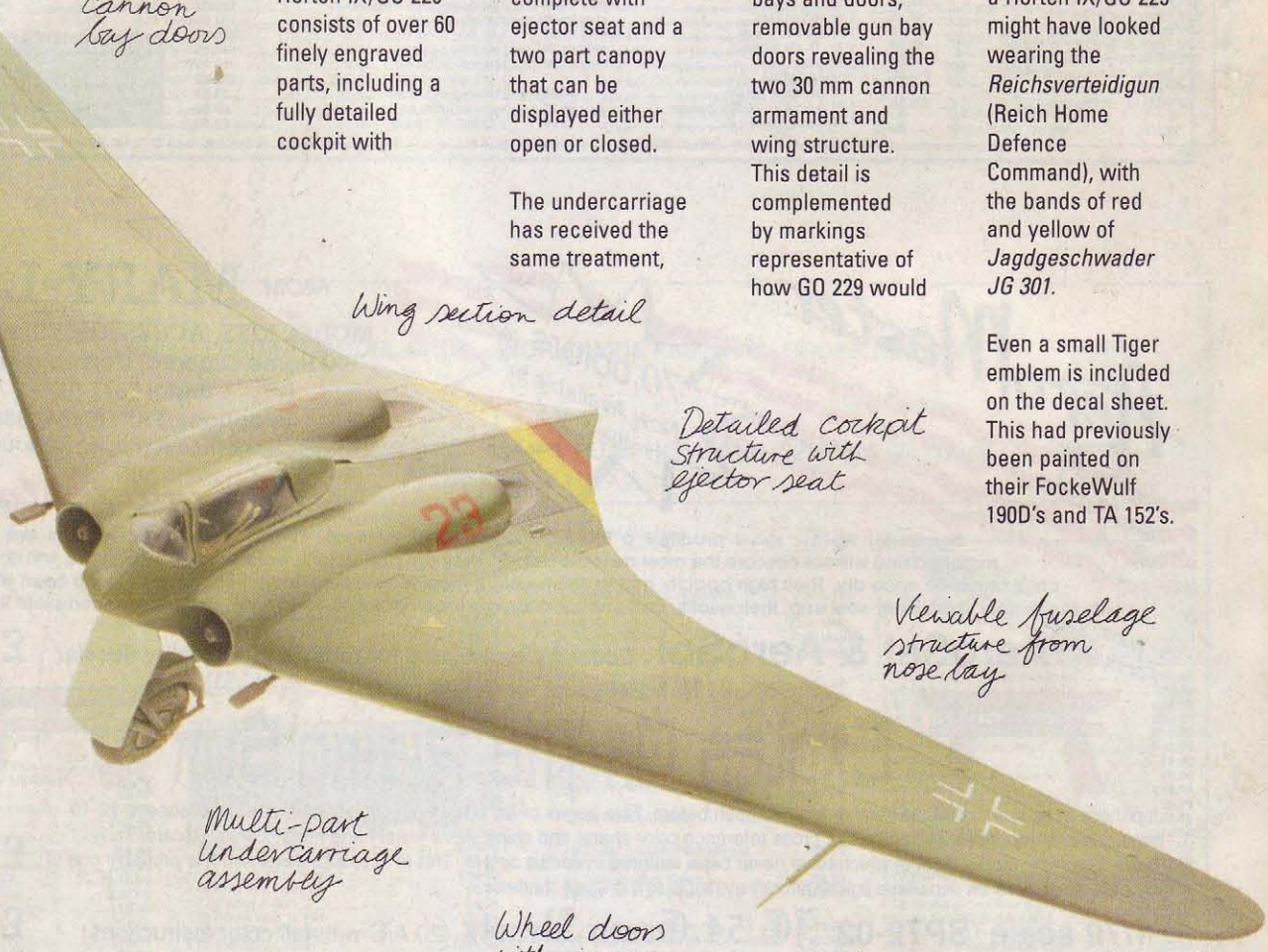
structure and instrument panel complete with ejector seat and a two part canopy that can be displayed either open or closed.

The undercarriage has received the same treatment,



with detail on the inside of the wheel bays and doors, removable gun bay doors revealing the two 30 mm cannon armament and wing structure. This detail is complemented by markings representative of how GO 229 would have looked in front line service, and as usual with Revell kits there are two options included. The first is for a standard machine devoid of any unit markings, typical of the period and the second is an impression of how a Horten IX/GO 229 might have looked wearing the *Reichsverteidigun* (Reich Home Defence Command), with the bands of red and yellow of *Jagdgeschwader JG 301.*

Even a small Tiger emblem is included on the decal sheet. This had previously been painted on their FockeWulf 190D's and TA 152's.



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